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AD HOC GROUP ON THE BERLIN MANDATE
First session
Geneva, 21 - 25 August 1995

REPORT OF THE AD HOC GROUP ON THE BERLIN MANDATE ON THE WORK OF ITS FIRST SESSION HELD AT GENEVA FROM 21 TO 25 AUGUST 1995

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I. OPENING OF THE SESSION

1. The first session of the Ad Hoc Group on the Berlin Mandate (hereinafter referred to as "the AGBM") was held at Geneva from 21 to 25 August 1995. The session was convened in accordance with decision 1/CP.1, paragraph 6 (FCCC/CP/1995/7/Add.1).

2. The Chairman of the AGBM, Ambassador Raúl Estrada-Oyuela, opened the session at the 1st meeting, on 21 August 1995. In welcoming the participants, he noted that the Convention was entering a new phase of consolidating past work and achievements. Recalling the conclusion of the Conference of the Parties at its first session (COP 1) that the existing commitments in Article 4.2(a) and 4.2(b) of the Convention are inadequate, he highlighted the main elements of the Berlin Mandate (FCCC/CP/1995/7/Add.1, decision 1/CP.1). The purpose of the Berlin Mandate process is to take appropriate action for the post-2000 period, including strengthening the commitments of Parties included in Annex I to the Convention. He reviewed the guidelines for the negotiating process, such as the principles of equity and common but differentiated responsibilities. He recalled that the process aimed to elaborate policies and measures and to set quantified limitation and reduction objectives for Annex I Parties. The Mandate also provided that no new commitments would be introduced for developing country Parties, but that the process would continue to advance the implementation of existing commitments in Article 4.1. The process would include, in its initial stages, an analysis and assessment to identify possible policies and measures for Annex I Parties. While pointing to the short time available, the Chairman expressed confidence that, with the goodwill of all Parties, a legal instrument reflecting the aspirations of the international community would be successfully concluded.

3. The Executive Secretary welcomed all participants to the session. He expressed regret that funding had been available to support participation by only a limited number of Parties. As the Convention process was entering a new phase, coherence remained an important aim and he outlined the measures taken to achieve this aim. He then highlighted five key aspects of the Berlin Mandate process. First, he pointed out the need to adhere to the timetable for preparing and adopting a new, complex legal instrument. Second, a common understanding regarding the process of analysis and assessment was required. Third, the nature, timing and origin of inputs also needed to be determined. Fourth, the communications from Parties included in Annex I and the in-depth review process offered valuable information on relevant national policies and measures and could provide key inputs to the process. Fifth, while new commitments for Parties not included in Annex I were excluded, the process remained open to all Parties, including developing countries whose interests were affected and engaged. He called for strong political commitment and active participation by all Parties to help lead the Berlin Mandate process to an effective result.

II. ORGANIZATIONAL MATTERS
(Agenda item 1)

A. Adoption of the agenda
(Agenda item 1 (a))

4. At its 1st meeting, on 21 August, the AGBM adopted the following agenda:

1. Organizational matters:

   (a) Adoption of the agenda;

   (b) Organization of work of the session.

2. Election of officers other than the Chairman.

3. Programme of work until the third session of the Conference of the Parties:

   (a) Structure;

   (b) Scheduling;

   (c) Analysis and assessment;

   (d) Requests for inputs to subsequent sessions of the Ad Hoc Group on the Berlin Mandate.

4. Report on the session.

B. Organization of work of the session
(Agenda item 1 (b))

5. At the 1st meeting of the AGBM, on 21 August, the Chairman recalled that there would be services available for one morning and one afternoon meeting with interpretation each day. He also referred to the documentation as mentioned in document FCCC/AGBM/1995/1, paragraphs 4, 5 and 7.

C. Attendance

6. The first session of the AGBM was attended by representatives of the following 85 Parties to the United Nations Framework Convention on Climate Change:

Algeria	Austria	Brazil
Antigua and Barbuda	Bangladesh	Bulgaria
Argentina	Benin	Burkina Faso
Australia	Bolivia	Canada

Central African Republic
Chad
Chile
China
Colombia
Comoros
Côte d'Ivoire
Cuba
Democratic People's Republic of Korea
Denmark
Dominica
Ecuador
Egypt
Ethiopia
European Community
Finland
France
Gambia
Germany
Greece
Guinea
Hungary
Iceland
India
Indonesia
Ireland
Italy
Jamaica
Japan
Kenya
Kuwait
Lao People's Democratic Republic
Lesotho
Malaysia
Maldives
Mali
Malta
Mauritania
Mauritius
Mexico
Micronesia (Federated States of)
Myanmar
Netherlands
New Zealand
Nigeria
Norway
Pakistan
Panama
Peru
Philippines
Poland
Portugal
Republic of Korea
Russian Federation
Samoa
Saudi Arabia
Slovak Republic
Spain
Sudan
Sweden
Switzerland
Thailand
Togo
Trinidad and Tobago
Uganda
United Kingdom of Great Britain and Northern Ireland
United States of America
Uruguay
Uzbekistan
Venezuela
Viet Nam
Zambia
Zimbabwe

7. The session was also attended by observers from the following States not parties to the Convention:

Angola
Belgium
El Salvador
Gabon
Honduras
Iran (Islamic Republic of)
Madagascar
Morocco
Niger
Sierra Leone
South Africa
United Republic of Tanzania

8. The following United Nations offices and programmes were represented:

United Nations Centre for Human Rights
United Nations Department for Policy Coordination and Sustainable Development (DPCSD)
United Nations Conference on Trade and Development (UNCTAD)
United Nations Environment Programme (UNEP)
Economic Commission for Europe (ECE)
United Nations Centre for Human Settlements (HABITAT)

9. The following specialized agencies of the United Nations and related organizations were represented:

International Atomic Energy Agency (IAEA)
United Nations Educational, Scientific and Cultural Organization, Intergovernmental Oceanographic Commission (UNESCO/IOC)
WMO/UNEP Intergovernmental Panel on Climate Change (IPCC)
World Health Organization (WHO)
World Meteorological Organization (WMO)
World Trade Organization (WTO)

10. The following intergovernmental and non-governmental organizations were represented:

Intergovernmental organizations:

International Energy Agency (IEA)
Organisation for Economic Co-operation and Development (OECD)
Organization of Petroleum Exporting Countries (OPEC)
South Pacific Regional Environment Programme (SPREP)

Non-governmental organizations:

Alliance for Responsible Atmospheric Policy / Arlington, USA
Association Française du Froid/Alliance Froid Climatisation Environnement / Paris, France
Center for International Climate and Environmental Research / Oslo, Norway
Climate Action Network UK / London, UK
Climate Network Europe / Brussels, Belgium
Earth Council / San José, Costa Rica
Edison Electric Institute / Washington, USA
Environmental Defense Fund / Washington, USA
Face Foundation / Arnhem, Netherlands
Foundation for International Environmental Law and Development / London, UK
Germanwatch / Bonn, Germany
Global Climate Coalition / Washington, USA
Global Industrial and Social Progress Research Institute / Tokyo, Japan
Greenpeace International / Amsterdam, Netherlands
Industrial Technology Research Institute / Hsinchu, Taiwan, Province of China
Institut de recherche sur l'environnement / La Roche sur Foron, France
International Academy of the Environment / Conches, Switzerland
International Chamber of Commerce / Paris, France
International Climate Change Partnership / Arlington, USA
International Council of Environmental Law / Bonn, Germany

International Council of Women / Paris, France
International Gas Union / Groningen, Netherlands
International Organization of Motor Vehicle Manufacturers / Paris, France
International Petroleum Industry Environmental Conservation Association / London, UK
National Coal Association / Washington, USA
Natural Resources Defense Council / Washington, USA
New Energy and Industrial Technology Development Organization / Tokyo, Japan
RainForest ReGeneration Institute / Washington, USA
Stockholm Environment Institute / Stockholm, Sweden
Tata Energy Research Institute / New Delhi, India
The Climate Council / Washington, USA
The Woods Hole Research Center / Woods Hole, USA
United Mine Workers of America / Washington, USA
University of Tübingen - Center for International Relations / Tübingen, Germany
Verification Technology Information Centre / London, UK
World Coal Institute / London, UK
Wuppertal Institute for Climate, Environment and Energy / Wuppertal, Germany
WWF-International / Gland, Switzerland

D. Documentation

11. The following documents were prepared for the AGBM at its first session:

FCCC/AGBM/1995/1	Provisional agenda and annotations, including suggestions for the organization of work
FCCC/AGBM/1995/MISC. 1	Implementation of the Berlin Mandate. Comments from Parties
FCCC/AGBM/1995/L.1 and Add.1	Draft report of the Ad Hoc Group on the Berlin Mandate at its first session

III. ELECTION OF OFFICERS OTHER THAN THE CHAIRMAN
(Agenda item 2)

12. At the 1st meeting of the AGBM, on 21 August, the Chairman reported on his consultations with regional groups in respect of nominations for the Bureau of the AGBM. He recalled that he had been authorized by the COP at its first session to undertake such consultations and indicated that they would continue. The representative of Saudi Arabia observed that the issue of the rules of procedure of the COP had not been resolved. The Chairman noted that this matter was addressed in the report of COP 1 (FCCC/CP/1995/7, para. 14).

13. The Chairman provided further reports on his consultations at the 2nd and 3rd meetings on 22 and 23 August, respectively. At the 5th meeting, on 24 August, the Chairman noted that he would, in accordance with the mandate conferred on him by the COP at its first session, continue his consultations with regional groups in the period leading up to the second session of the AGBM in the hope that the Bureau could be elected at that time. At the 8th meeting, on 25 August, the Chairman noted the emergence of new possibilities that might lead to consensus on the Bureau, but confirmed the need for further consultations.

IV. PROGRAMME OF WORK UNTIL THE THIRD SESSION OF THE CONFERENCE OF THE PARTIES
(Agenda item 3)

A. Structure
(Agenda item 3 (a))

14. The AGBM considered this item at its 1st meeting, on 21 August. On the recommendation of the Chairman, it decided not to establish formal subgroups at this time: more flexible approaches, such as the use of informal consultation groups, were preferred. The AGBM would return to this issue in the future if it became necessary to establish subgroups.

B. Scheduling
(Agenda item 3 (b))

15. The AGBM considered this item at its 1st meeting, on 21 August, and confirmed the following schedule of meetings as established by the Bureau of the COP:

- Second session: 30 October - 3 November 1995
- Third session: 4 - 8 March 1996
- Fourth session: 15 - 19 July 1996 (if COP 2 takes place in October 1996)
- Fifth session: immediately preceding COP 2, October 1996 (to be decided)
- Sixth session: 10 - 14 March 1997

It was understood that the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI), when convened in the same meeting period as the AGBM, would meet prior to the AGBM.

16. The AGBM took note of the explanation by the secretariat that the amount of meeting time was fixed as a result of the decisions of COP 1 on the Convention budget (FCCC/CP/7/Add.1, decisions 17/CP.1 and 18/CP.1) and the forthcoming decision of the General Assembly on conference servicing and that any additional meeting time for the Group would have to be at the expense of the other subsidiary bodies.

17. At its 7th meeting, on 25 August, the AGBM stressed the importance of the fullest participation of all Parties in the implementation of the Berlin Mandate. It expressed regret at the inadequacy of resources in the special voluntary fund to support such participation by eligible Parties and hoped that sufficient resources would be available for the second and further sessions of the Group.

C. Analysis and assessment and requests for inputs to subsequent sessions of the Ad Hoc Group on the Berlin Mandate

(Agenda items 3 (c) and 3 (d))

1. Proceedings

18. In view of the linkages between these two sub-items of the agenda, they were taken up in a consolidated manner at the 2nd, 3rd, 4th and 5th meetings, on 22, 23 and 24 August. Statements on these sub-items were made by representatives of 36 Parties, including one speaking on behalf of the Group of 77 and China, one speaking on behalf of the European Community and its member States and another speaking on behalf of the Alliance of Small Island States (AOSIS). A statement was also made on behalf of environmental non-governmental organizations.

2. Conclusions

19. On the basis of a proposal from the Chairman, the AGBM, at its 8th meeting, on 25 August, adopted the following conclusions:

(a) The Conference of the Parties (COP) is the supreme body of the United Nations Framework Convention on Climate Change and derives its mandate from the provisions of that Convention. The AGBM has been established by the COP and assigned a precise and specific mandate;

(b) The Berlin Mandate provides that "the process will include in its early stages an analysis and assessment, to identify possible policies and measures for Annex I Parties which could contribute to limiting and reducing emissions by sources and protecting and enhancing sinks and reservoirs of greenhouse gases. This process could identify environmental and economic impacts and the results that could be achieved with regard to time horizons such as 2005, 2010, and 2020" (FCCC/CP/1995/7/Add.1, decision 1/CP.1, para. 4);

(c) The purpose of the analysis and assessment is to assist, in an iterative manner, the negotiation of a protocol or other legal instrument. In this context, the analysis and assessment and the other elements of the Berlin Mandate process have to be well integrated in order to be mutually reinforcing;

(d) This analysis and assessment was seen as important to the successful and timely conclusion of the Berlin Mandate process. It should be comprehensive, focused on priorities, open and transparent;

(e) While the initial focus will be on analysis and assessment, the relative consideration of the elements set out in paragraph 2 (a) to 2 (f) of the Berlin Mandate will increase as the process advances. The COP, at its second session, will be an opportunity to take stock of the overall process and to intensify the efforts to adopt a protocol or other legal instrument at COP 3;

(f) Inputs from Parties constitute the basic documents for the negotiation of a protocol or other legal instrument; other inputs may inform these negotiations. Should the AGBM feel it necessary to obtain specialized inputs, including inputs from the Intergovernmental Panel on Climate Change (IPCC) acting within its mandate, these should be obtained through the subsidiary bodies under the Convention, such as the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI), and through the secretariat. In this context, the analysis and assessment would be able to draw on:

(i) The contributions of all Parties, including analysis and assessment carried out at the national level;

(ii) The national communications of Annex I Parties and related in-depth review reports;

(iii) The work of the SBSTA and any intergovernmental technical advisory panels it may establish, in accordance with its mandate and work programme and any specific requests thereto;

(iv) The work of the SBI, in accordance with its mandate and work programme and any specific requests thereto;

(v) The work of the secretariat in carrying out its assigned tasks and in responding to requests from the AGBM;

(vi) The Second Assessment Report of the IPCC;

(vii) The work being carried out for Annex I countries by the joint project of the Organisation for Economic Co-operation and Development (OECD) and the International Energy Agency (IEA) on national communications relating to policies and measures for "common action", including regular progress reports from the Parties involved;

(viii) Contributions received from competent intergovernmental organizations;

(g) The AGBM pointed to the wide array of currently available information relevant to the Berlin Mandate process, and to the analysis and assessment in particular. The entities responsible for such information are invited to make this information available to it to assist in the process;

(h) The AGBM requested the following inputs from the secretariat for the second session (30 October - 3 November 1995):

(i) A compilation of submissions from Parties, in their original language(s), on the implementation of the Berlin Mandate which Parties may have transmitted to the secretariat by 8 September 1995 in response to the earlier request from the Bureau of the COP. In this context, Parties were encouraged to make such submissions to help advance the process. Further, the secretariat was requested to prepare a thematic index to facilitate the consideration of these inputs;

(ii) The first edition of an annotated compilation of information relevant to the Berlin Mandate process. This annotated compilation would be updated for future sessions as additional information became available to the secretariat;

(iii) Lists of issues identified by Parties, that would benefit from analysis and assessment; and

(iv) A synthesized listing of policies and measures, also by sector, identified in the national communications of Annex I Parties;

(i) The AGBM will take decisions, at its second session, on further work, on who will undertake it and on completion dates;

(j) The AGBM decided to consider, at its third session (4 - 8 March 1996), those aspects of the Second Assessment Report of the IPCC that are relevant to its work, along with any related conclusions or advice that the SBSTA may provide;

(k) The AGBM decided to consider, at its third session (4 - 8 March 1996), those aspects of the national communications of Annex I Parties and related in-depth review reports relevant to its work, along with any related conclusions or advice that the SBSTA and the SBI may provide;

(l) The AGBM requested the SBSTA to provide, for consideration at its third session (4 - 8 March 1996), a report on innovative, efficient and state-of-the-art technologies and know-how that could advance the implementation of the Berlin Mandate. This should be periodically updated;

(m) The AGBM decided to consider, at its fifth session (October 1996), the second compilation and synthesis of national communications from Annex I Parties which will put particular emphasis on policies and measures, and requested the SBSTA and the SBI to provide advice on the document in accordance with their mandates;

(n) Additional inputs may be identified at future sessions.

20. The Chairman underlined that the above conclusions were of a procedural and organizational nature. He assured the AGBM that points of substance raised in the course of the discussion and in the course of his consultations on the draft conclusions would be reflected in the documentation for the second session, in particular in the document referred to in subparagraph (iii) of paragraph 15 (h) above. He stressed that the conclusions in subparagraphs (j), (k) and (m) of paragraph 15 above should not be understood as excluding other matters from consideration at the relevant sessions.

21. Statements were made by representatives of 10 Parties, including one speaking on behalf of the Group of 77 and China, one speaking on behalf of the European Community and its member States and another speaking on behalf of the Alliance of Small Island States (AOSIS). In accepting the conclusions, they reiterated a number of points with regard to their understandings on the conclusions.

22. The Chairman assured representatives that the special needs and conditions of the Parties that are least-developed countries would, as provided in the Berlin Mandate, guide the process until its conclusion.

V. REPORT ON AND CLOSURE OF THE FIRST SESSION
(Agenda item 4)

23. At the 6th meeting, on 24 August, the Chairman, in the absence of an elected Rapporteur, presented the first part of the draft report of the session (FCCC/AGBM/1995/L.1). The AGBM considered and adopted the first part of the draft report.

24. At its 8th meeting, the AGBM requested the Chairman, with the assistance of the secretariat, to complete the report, taking into account the discussions of the AGBM, the conclusions on agenda items 3 (c) and (d), and the need for editorial adjustments.

25. The representative of the United States of America stated that his delegation did not share the interpretation of the phrase "developed country/other Parties" (from paragraph 2 (a) of the Berlin Mandate) reflected in paragraph 56 of the report of COP 1 (FCCC/CP/1995/7). He indicated that his delegation does not accept, nor did it accept in Berlin, that specific approaches agreed upon for the period up to the year 2000 should necessarily be continued or applied in the post-2000 period.

26. The Chairman, after thanking all participants for their constructive cooperation, declared the first session of the AGBM closed.

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First session
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REPORT OF THE AD HOC GROUP ON THE BERLIN MANDATE ON THE WORK OF ITS FIRST SESSION HELD AT GENEVA FROM 21 TO 25 AUGUST 1995

Corrigendum

Paragraph 20, line 5

For paragraph 15 (h) read paragraph 19 (h)

Paragraph 20, line 6

For paragraph 15 above read paragraph 19 above

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Second session
Geneva, 30 October - 3 November 1995
Item 1 (a) of the provisional agenda

PROVISIONAL AGENDA AND ANNOTATIONS

Note by the Executive Secretary

I. INTRODUCTION

1. In accordance with the schedule of sessions for the Ad Hoc Group on the Berlin Mandate (AGBM) confirmed at its first session (see FCCC/AGBM/1995/2, para, 15), arrangements have been made for the second session to be held at the Palais des Nations, Geneva, from 30 October to 3 November 1995. The session will be opened by the Chairman at 3 p.m. on 30 October 1995, in conference room XIX.

II. PROVISIONAL AGENDA

2. The provisional agenda for the second session of the AGBM, proposed after consultation with the Chairman, is as follows:

1. Organizational matters:

   (a) Adoption of the agenda;
   (b) Organization of work of the session;
   (c) Organization of the work of future sessions.

2. Election of officers other than the Chairman.

3. Strengthening the commitments in Article 4.2(a) and (b):*

   (a) Policies and measures;
   (b) Quantified emission limitation and reduction objectives within specified time-frames.

4. Continuing to advance the implementation of Article 4.1.*

5. Possible features of a protocol or other legal instrument.*

6. Report on the session.

3. The annotations to the provisional agenda will be issued as an addendum to this document.

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* Each of these items would provide for consideration of the further work and inputs required.

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Second session
Geneva, 30 October - 3 November 1995
Item 1 (a) of the provisional agenda

PROVISIONAL AGENDA AND ANNOTATIONS

Note by the Executive Secretary

Addendum

I. ANNOTATIONS TO THE PROVISIONAL AGENDA

1. Organizational matters

(a) Adoption of the agenda

1. The provisional agenda for the second session of the AGBM is presented for adoption. The provisional agenda is based on the provisions of the Berlin Mandate (FCCC/CP/1995/7/Add.1, decision 1/CP.1) and the conclusions reached by the AGBM at its first session. With respect to the analysis and assessment, these conclusions provide that "the purpose of the analysis and assessment is to assist, in an iterative manner, the negotiation of a protocol or another legal instrument. In this context, the analysis and assessment and the other elements of the Berlin Mandate process have to be well integrated in order to be mutually reinforcing" and "while the initial focus will be on analysis and assessment, the relative consideration of the elements set out in paragraph 2 (a) to 2 (f) of the Berlin Mandate will increase as the process advances" (FCCC/AGBM/1995/2, para. 19 (c) and (e)).

2. At its first session, the AGBM decided to "take decisions, at its second session, on further work, on who will undertake it and on completion dates" (FCCC/AGBM/1995/2, para. 19 (i)). The provisional agenda has been prepared on the understanding that these decisions will be taken within the context of specific agenda items rather than under a separate item relating to further work. In this way, it is hoped that the requests for inputs and further work can be linked closely to the issues at hand and that overlapping discussions can be avoided. It may, however, be necessary to take stock of the magnitude of the overall package of requests, including those already requested at the first session, to ensure that it can be delivered in the time available between sessions, bearing in mind the capacity of the secretariat and other bodies.

(b) Organization of work of the session

(i) Documentation

3. A list of documents relating to the provisional agenda, as well as other documents available at the session, is contained in annex I. In view of the limited time between sessions, several of the documents will be issued shortly before the session opens, and one, the thematic index to the compilation of comments from Parties, is unlikely to be available.

(ii) Schedule

4. The scheduling of meetings for the session will be based on the availability of facilities during normal working hours, when services are available for one meeting with interpretation from 10 a.m. to 1 p.m. and from 3 p.m. to 6 p.m. There will also be some facilities for informal meetings without interpretation. Delegations are urged to use these facilities fully by starting all meetings promptly at the scheduled time. A suggested approach to the organization of work is contained in annex II.

(c) Organization of the work of future sessions

5. It may be useful to look ahead to the programme and structure of the work of future sessions of the AGBM in the light of the conclusions reached at the second session. The Chairman may also provide an oral report on any decisions of the Bureau of the Conference of the Parties (COP) relating to the date and venue of the second session of the COP and to the schedule of meetings under the Convention in 1996 and 1997.

2. Election of officers other than the Chairman

6. It will be necessary for the AGBM to elect its remaining officers. The COP, after designating the Chairman of the AGBM, authorized him to undertake consultations with the regional groups in respect of nominations for the Bureau of the AGBM (see FCCC/CP/1995/7, para. 18). Since it was not possible to conclude this item at the first session, the Chairman undertook to continue his consultations (FCCC/AGBM/1995/2, para. 13) and will report on the results.

3. Strengthening the commitments in Article 4.2(a) and (b)

7. The COP agreed to begin a process to enable it to take appropriate action for the period beyond 2000, including the strengthening of the commitments of Annex I Parties, through the adoption of a protocol or another legal instrument. This process will, inter alia, aim both to elaborate policies and measures as well as to set quantified emission limitation and reduction objectives within specified time-frames, such as 2005, 2010 and 2020 (FCCC/CP/1995/7/Add.1, decision 1/CP.1, preamble and para. 2 (a)). These two elements are very closely related; there is an evident linkage between the adequacy of policies and measures and the achievement of quantified objectives within specified time-frames. Nevertheless, it is proposed that the two elements be considered at this point as two separate sub-items of the same agenda item in order to facilitate, and provide more focus for, the discussions.

8. There is also a linkage between each of these sub-items and item 5 of the provisional agenda, "Possible features of a protocol or another legal instrument". Thus, certain features directly related to one or other sub-item may be considered initially under that sub-item.

9. In considering the further work and inputs required under each sub-item, the AGBM may wish to identify the need for technical inputs and to assess whether these would be provided in time by the intergovernmental technical advisory panels to be established by the Subsidiary Body for Scientific and Technological Advice.

(a) Policies and measures

10. The Berlin Mandate provides that "the process will include in its early stages an analysis and assessment, to identify possible policies and measures for Annex I Parties which could contribute to limiting and reducing emissions by sources and protecting and enhancing sinks and reservoirs of greenhouse gases. This process could identify environmental and economic impacts and the results that could be achieved with regard to time horizons such as 2005, 2010, and 2020" (FCCC/CP/1995/7/Add.1, decision 1/CP.1, para. 4).

11. This analysis and assessment might be advanced at the second session in two respects:

(a) Parties or groups of Parties may wish to **contribute to the analysis and assessment** by bringing forward analytical information they consider relevant. This could include information from their national experiences, for example, as reflected in their national communications, and information from authoritative sources. Relevant information may include assessments of promising policies and measures and their impacts, as well as proposals on how policies and measures may best be identified. The purpose of such a discussion would be to gain a better appreciation of promising measures for further consideration and to begin the process of elaborating the policies and measures to be included in the protocol or another legal instrument; and

(b) The AGBM may also wish to **take stock** of the information on policies and measures that is currently available, or in preparation, and, in accordance with the conclusions reached at its first session (FCCC/AGBM/1995/2, para. 19 (i)), **decide on what further work** will be required, on who will undertake it and on completion dates. Any resource implications of such requests, and capacities to respond in time, must be borne in mind.

12. In view of the significant array of potential policies and measures available to respond to climate change, and the impracticality of undertaking an analysis and assessment of all of them, Parties may wish to begin to narrow the range of policies and measures that are considered relevant for the purposes of the Berlin Mandate and for analysis and assessment. Attention is drawn to section I and the appendix of document FCCC/AGBM/1995/4 on lists of issues identified by Parties. At the first session, and in subsequent submissions, some Parties referred to the nature of policies and measures that would be the focus of the Berlin Mandate process. They also identified specific categories of policies and measures which merit attention, as well as providing concrete examples of specific policies and measures.

13. The AGBM may wish to consider possible vehicles for undertaking the analysis and assessment, in addition to the documents submitted and their consideration in the AGBM. Panel discussions, workshops and informal meetings have been mentioned by some Parties as complementary means of analysis and assessment. These activities could take place as part of an AGBM session, on the margins of a session (for example, during evenings or weekends) or independently from a session and could be organized by the secretariat, by a Party or Parties, or by other entities. In order to be effective, careful preparation and organization would be necessary. An analysis of the budgetary implications of any concrete proposal would be required.

14. In addition to the document mentioned in paragraph 12 above, the following documents may be relevant to the discussion of this sub-item (see annex I for full titles):

- Implementation of the Berlin Mandate: comments from Parties (FCCC/AGBM/1995/MISC.1 and Add.1)

- The draft protocol proposed by Trinidad and Tobago on behalf of the Alliance of Small Island States (AOSIS) and the proposals from Germany for further elements of a protocol (A/AC.237/L.23 and Add.1)*

- Review of the adequacy of Article 4, paragraph 2 (a) and (b): comments from Parties and other member States (FCCC/CP/1995/MISC.1 and Add.1 and A/AC.237/MISC.43 and Add.1)

- Annotated compilation of information relevant to the Berlin Mandate process (FCCC/AGBM/1995/5); and Review of the adequacy of commitments in Article 4, paragraph 2 (a) and (b): annotated compilation of international, peer-reviewed literature (A/AC.237/83)

- Policies and measures identified in national communications from Annex I Parties (FCCC/AGBM/1995/6)

The AGBM will also receive a progress report from the Annex I Parties on the work being carried out for them by the joint project of the Organisation for Economic Co-operation and Development and the International Energy Agency on policies and measures for "common action" (see FCCC/AGBM/1995/2, para. 19 (f) (vii)).

15. Following discussion on the topics mentioned above, the conclusions of the AGBM on this sub-item could address points such as:

(a) Any preliminary results from the analysis and assessment;

(b) Criteria for identifying promising policies and measures, taking account of experiences and impacts;

(c) Considerations pertaining to the approach to be used in incorporating policies and measures in the protocol or another legal instrument (for example, degree of detail, legal character);

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* For this and subsequent references, document A/AC.237/L.23/Add.1 should be considered in the light of the statement by Germany (see FCCC/AGBM/1995/MISC.1/Add.1, p. 30) on consistency with decision 1/CP.1 on the Berlin Mandate.

(d) Further work required, who should undertake it and completion dates; and

(e) Complementary vehicles for analysis and assessment.

(b) Quantified emission limitation and reduction objectives within specified time-frames

16. The Berlin Mandate provides that the process will, inter alia, aim, as the priority in the process of strengthening the commitments in Article 4.2(a) and (b) for Annex I Parties, "to set quantified limitation and reduction objectives within specified time-frames, such as 2005, 2010 and 2020, for their anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol ..." (FCCC/CP/1995/7/Add.1, decision 1/CP.1, para. 2 (a)). The AGBM may wish to have a preliminary discussion of such quantified objectives. This would provide an opportunity for an initial exchange of views on the scope of the options available, such as the nature of possible objectives, and could set the stage for the identification of a limited number of scenarios as some delegations proposed at the first session.

17. On the basis of discussions at the first session, and issues raised in submissions (see FCCC/AGBM/1995/4, section II), Parties may wish to exchange views and to bring forward substantive information and/or proposals on issues such as:

(a) The implementation of existing commitments and the lessons from this experience;

(b) Projections of, or trends in, emissions and removals in the context of this sub-item;

(c) The identification and analysis of a limited number of scenarios or objectives, including their impacts;

(d) Differentiation among Annex I Parties; and

(e) Equitable burden sharing or collective targets to address the fair distribution of costs among Annex I Parties.

18. In addition to the document mentioned in paragraph 17 above, the following documents may be relevant to the discussion of this sub-item (see annex I for full titles):

- Implementation of the Berlin Mandate: comments from Parties (FCCC/AGBM/1995/MISC.1 and Add.1)

- The draft protocol proposed by Trinidad and Tobago on behalf of the Alliance of Small Island States (AOSIS) and proposals from Germany for further elements of a protocol (A/AC.237/L.23 and Add.1)

- Review of the adequacy of Article 4, paragraph 2 (a) and (b): comments from Parties and other member States (FCCC/CP/1995/MISC.1 and Add.1 and A/AC.237/MISC.43 and Add.1)

- Annotated compilation of information relevant to the Berlin Mandate process (FCCC/AGBM/1995/5); and Review of the adequacy of commitments in Article 4, paragraph 2 (a) and (b): annotated compilation of international, peer-reviewed literature (A/AC.237/83)

19. The conclusions on this sub-item could reflect the discussion on the above points and, in accordance with the conclusion at the first session (FCCC/AGBM/1995/2, para. 19 (i)), include decisions on what further work will be required, on who will undertake it and on completion dates. Such decisions will have to take account of the resource implications and the time required to undertake the work.

4. Continuing to advance the implementation of Article 4.1

20. The Berlin Mandate provides that the process will "not introduce any new commitments for Parties not included in Annex I, but reaffirm existing commitments in Article 4.1 and continue to advance the implementation of these commitments in order to achieve sustainable development, taking into account Article 4.3, 4.5 and 4.7" (FCCC/CP/1995/7/Add.1, decision 1/CP.1, para. 2 (b)). The AGBM, in its first discussion of this matter, may wish to explore the nature and scope of this element of the Berlin Mandate process and to adopt initial conclusions, including those with regard to any inputs required for the third or future sessions. Recalling that Article 4.1 applies to all Parties, the AGBM may also wish to explore, inter alia, opportunities for advancing the implementation of commitments related to technology (including its development, diffusion and transfer) and communications by non-Annex I Parties, as well as any implications for the financial mechanism of the Convention.

21. Documents that may be relevant to this discussion include the compilation of submissions for Parties (FCCC/AGBM/1995/MISC.1 and Add.1) as well as the lists of issues identified by Parties (FCCC/AGBM/1995/4, section III).

5. Possible features of a protocol or another legal instrument

22. The AGBM may consider it useful to have an initial exchange of views on the possible features of a protocol or another legal instrument. Such a discussion would help in

the ongoing design and implementation of the analysis and assessment and assist in orienting the preparations for forthcoming sessions.

23. Under this item, the AGBM may consolidate relevant elements arising from preceding items. Delegations may also wish to comment on issues such as:

(a) The structure and possible elements of a protocol or another legal instrument, including the possible role and legal nature of annexes;

(b) Any mechanisms for coordination and for review that may be considered necessary;

(c) Institutional arrangements and processes under a protocol or another legal instrument and their linkages with arrangements and processes under the Convention (for example, the subsidiary bodies, the financial mechanism, the secretariat and the process for submission and review of national communications); and

(d) How paragraph 1 (f) of the Berlin Mandate (see FCCC/CP/1995/7/Add.1, decision 1/CP.1), relating to the coverage of all greenhouse gases, their emissions by sources and removals by sinks, is to be reflected.

24. Documents that may be relevant to this discussion include the compilation of submissions from Parties (FCCC/AGBM/1995/MISC.1 and Add.1), the lists of issues identified by Parties (FCCC/AGBM/1995/4, section IV) and the protocol proposal submitted by Trinidad and Tobago together with comments submitted by Germany (A/AC.237/L.23 and Add.1).

25. The AGBM may wish to adopt initial conclusions on the above points with a view to returning to the issues and expanding the scope of the discussion at a future session in line with progress achieved on other aspects of the Berlin Mandate process. Any documents required for the third or subsequent sessions should also be requested.

6. Report on the session

26. The relatively short length of the session, as well as the nature and timing of the discussion, may affect the extent to which a draft text of the report on the work of the session could be available at the end of the session. The AGBM may wish to adopt decisions or texts of substantive conclusions under the relevant items and sub-items of the agenda and, as at the first session, authorize the Rapporteur to complete the report after the session, under the guidance of the Chairman and with the assistance of the secretariat. While every effort will be made to have conclusions available in all languages, this can only be possible if sufficient time is available for translation.

Annex I

LIST OF DOCUMENTS FOR THE SECOND SESSION OF THE AD HOC GROUP ON THE BERLIN MANDATE

Documents prepared for the session

FCCC/AGBM/1995/3	Provisional agenda and annotations. Note by the Executive Secretary
FCCC/AGBM/1995/3/Add.1	Annotations to the provisional agenda, including suggestions for the organization of work. Note by the Executive Secretary
FCCC/AGBM/1995/4	Lists of issues identified by Parties. Note by the secretariat
FCCC/AGBM/1995/5	Annotated compilation of information relevant to the Berlin Mandate process. Note by the secretariat
FCCC/AGBM/1995/6	Policies and measures identified in the national communications from Annex I Parties. Note by the secretariat
FCCC/AGBM/1995/MISC.1/Add.1	Implementation of the Berlin Mandate: comments from Parties

Other documents for the session

FCCC/AGBM/1995/2	Report of the Ad Hoc Group on the Berlin Mandate on the work of its first session held at Geneva from 21 to 25 August 1995
FCCC/AGBM/1995/MISC.1	Implementation of the Berlin Mandate: comments from Parties
FCCC/CP/1995/7and Add.1 and Corr.1 (French only) and Corr.2 (Spanish only)	Report of the Conference of the Parties on its first session, held at Berlin from 28 March to 7 April 1995

FCCC/CP/1995/MISC.1 and Add.1	Matters relating to commitments: review of the adequacy of Article 4, paragraph 2 (a) and (b): comments from Parties and other member States
A/AC.237/L.23	Matters relating to commitments: review of the adequacy of commitments in Article 4, paragraph 2 (a) and (b): letter dated 20 September 1994 from the Permanent Representative of Trinidad and Tobago to the United Nations in New York to the Executive Secretary of the interim secretariat, transmitting a draft protocol to the United Nations Framework Convention on Climate Change on greenhouse gas emissions reduction
A/AC.237/L.23/Add.1	Matters relating to commitments: review of the adequacy of commitments in Article 4, paragraph 2 (a) and (b): letter dated 22 September 1994 from the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of Germany to the Executive Secretary of the interim secretariat, transmitting proposals for further elements of a protocol to the Convention
A/AC.237/83	Matters relating to commitments: review of the adequacy of commitments in Article 4, paragraph 2 (a) and (b): Annotated compilation of international, peer-reviewed literature
A/AC.237/MISC.43 and Add.1	Matters relating to commitments: review of the adequacy of Article 4, paragraph 2 (a) and (b): comments from Parties or other member States

Other documents available at the session for reference purposes

FCCC/SBSTA/1995/3	Report of the Subsidiary Body for Scientific and Technological Advice on the work of its first session held at Geneva from 28 August to 1 September 1995
FCCC/SBI/1995/5	Report of the Subsidiary Body for Implementation on the work of its first session held at Geneva on 31 August 1995

Annex II

PROPOSED SCHEDULE OF WORK FOR THE SECOND SESSION OF THE AD HOC GROUP ON THE BERLIN MANDATE

DATE	SUGGESTED ORGANIZATION OF WORK
Monday 30 October	
3 p.m. - 6 p.m.	Item 1: Organizational matters: (a) Adoption of the agenda; (b) Organization of work of the session. Item 2: Election of officers other than the Chairman. Item 3: Strengthening the commitments in Article 4.2(a) and (b): (a) Policies and measures.
Tuesday 31 October	
10 a.m. - 1 p.m.	Item 3: Strengthening the commitments in Article 4.2(a) and (b): (a) Policies and measures (continued); (b) Quantified emission limitation and reduction objectives within specified time-frames.
3 p.m. - 6 p.m.	Item 3: Strengthening the commitments in Article 4.2(a) and (b): (b) Quantified emission limitation and reduction objectives within specified time-frames (continued). Item 4: Continuing to advance the implementation of Article 4.1.

DATE	SUGGESTED ORGANIZATION OF WORK
Wednesday 1 November	
10 a.m. - 1 p.m.	Item 5: Possible features of a protocol or another legal instrument.
3 p.m. - 6 p.m.	Informal consultations on conclusions.
Thursday 2 November	
10 a.m. - 1 p.m.	Informal consultations on conclusions.
3 p.m. - 6 p.m.	Item 1: Organizational matters: (c) Organization of the work of future sessions. Informal consultations on conclusions.
Friday 3 November	
10 a.m. - 1 p.m.	Informal consultations on conclusions.
3 p.m. - 6 p.m.	Item 6: Report on the session.

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Second session
Geneva, 30 October - 3 November 1995
Items 3, 4 and 5 of the provisional agenda

LISTS OF ISSUES IDENTIFIED BY PARTIES

Note by the secretariat

1. At its first session, the Ad Hoc Group on the Berlin Mandate (AGBM) requested the secretariat to prepare for consideration at the second session "lists of issues identified by Parties, that would benefit from analysis and assessment" (FCCC/AGBM/1995/2, para. 19 (h) (iii)). These lists are found in the annex to this note. In preparing the lists, the secretariat has also attempted to capture issues encompassed by the "points of substance raised in the course of the discussion and in the course of the Chairman's consultations on the draft conclusions" (FCCC/AGBM/1995/2, para. 20).

2. The lists have been prepared on the basis of statements made at the first session and submissions received from Parties by 20 September 1995. As many issues were referred to by several delegations, often in slightly different ways, an attempt has been made to synthesize the issues, while seeking at the same time to conserve the breadth of detail reflected in the statements and submissions. Drawing on the text of the Berlin Mandate, the issues have been categorized according to the following headings:

I. Policies and measures;

II. Quantified emission limitation and reduction objectives within specified time-frames;

III. Continuing to advance the implementation of Article 4.1;

IV. Possible features of a protocol or other legal instrument.

3. Under each heading, a limited number of general issues has been identified. For many of these issues, it was also possible to provide sub-issues, examples or points of detail and explanation. In order to avoid duplication and overlap, issues have been placed under only one heading. However, alternative placements would also be possible.

4. In compiling the lists, the secretariat has attempted to be as comprehensive as possible. While some points may have inadvertently been overlooked, the lists are still somewhat lengthy and if any further review of the issues identified is to be considered some prioritization may be necessary. The order of the listings should not be interpreted as an indication of priority or importance.

5. While it is not proposed that this document be considered in depth at the second session, delegations may wish to use it as a tool to facilitate the discussions under the items of the provisional agenda which bear titles similar to the section headings in this document.

Annex

I. POLICIES AND MEASURES[1/]

1. **How to identify policies and measures.**

2. **Analysis and assessment of environmental and economics impacts of proposed policies and measures, of proposed objectives (limited number of scenarios) and of no action:[2/]**

   (a) For Annex I Parties;

   (b) For developing country Parties;

   (c) At global and national levels;

   (d) Implications of timing of actions including impacts of near-term versus long-term actions (in 5 to 10 year increments);

   (e) Use of economic models ("top down", "bottom up" and integrated assessment models);

   (f) Taking account of Article 4.8, 4.9 and 4.10;

   (g) Examples mentioned of impacts to be considered:

   - consequences for greenhouse gas emissions and climate change;
   - relationship of policies and measures to achievement of quantified objective within time-frame;
   - other environmental impacts;
   - economic and market aspects (costs and benefits);
   - technical and technological aspects (potential for development and diffusion);
   - social and financial aspects;
   - potential industrial shifts to non-participating countries;
   - effects on employment and investment cycle;
   - implications for trade;
   - institutional and legislative aspects;
   - resulting policy constraints (e.g., conditionality).

1/ See appendix for more details on policies and measures.

2/ This point is also relevant to quantified emission limitation and reduction objectives within specified time-frames (section II below) but is treated here in a consolidated manner to avoid duplication and overlap.

3. **Nature of policies and measures to be focus of Berlin Mandate process (see appendix for more details):**

   (a) Those requiring international agreement to be implemented;

   (b) Those benefiting from - or becoming more effective through - collective or coordinated action;

   (c) Those appearing to be successful or promising and having the potential to be successful and replicable.

4. **Use of a common reference level of costs per tonne of CO_2 (or equivalent) avoided or removed as a basis for action.**

II. QUANTIFIED EMISSION LIMITATION AND REDUCTION OBJECTIVES WITHIN SPECIFIED TIME-FRAMES

1. **How to set objectives and time-frames (e.g. criteria).**

2. **Existing actions and commitments:**

   (a) To analyse implementation of existing commitments, including effects in the pre-2000 period;

   (b) To consider the effectiveness of current approaches and suggest ways in which future approaches can be made more credible and effective.

3. **Projections of, or trends in, emissions and removals** (including underlying assumptions):

   (a) At global, national and regional levels;

   (b) For Annex I Parties and non-Annex I Parties;

   (c) Regarding historical and cumulative emission trends;

   (d) Regarding trends in historic emissions indicators;

   (e) Of alternative indicators or benchmarks of progress, including individual quantitative indicators (e.g., vehicle miles travelled, energy intensity; see also point II.5(d) below).

4. **Identification and analysis of a limited number of scenarios involving a combination of time horizons and quantified targets.**

Approaches or scenarios mentioned:

(a) AOSIS protocol proposal (A/AC.237/L.23): 20 per cent reduction in CO_2 emissions by 2005;

(b) German elements paper (A/AC.237/L.23/Add.1);[3/]

(c) Maintaining 1990 greenhouse gas levels indefinitely after 2000 for Annex I Parties;

(d) Aiming to reduce greenhouse gas emissions by 5 to 10 per cent below 1990 levels by 2010 for Annex I Parties;

(e) Others, including various time-frames to 2020.

5. **Differentiation among Annex I Parties:**[4/]

(a) Definition of differentiated responsibilities and accounting for different economic situations and national circumstances of Annex I Parties;

(b) How to reflect "the differences in starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances ..." (Article 4.2 (a); Berlin Mandate, para. 2 (a));

(c) Use of regional protocols or other instruments encompassing groups of Parties on the basis of some agreed principle such as the level of economic development;

(d) Criteria for differentiation to gauge individual contribution of a given country to total emissions; for example:

- GDP per capita;
- anthropogenic emissions per capita and per unit of territory;
- amount of sinks and net emissions per capita and per unit of territory;

[3/] Taking account of statement by Germany (see FCCC/AGBM/1995/MISC.1/Add.1) on consistency with decision 1/CP.1 on the Berlin Mandate.

[4/] This issue could also be relevant to policies and measures (see section I above).

- levels of production and consumption of energy per capita;

(e) Role of Article 4.6.

6. Equitable burden sharing or collective targets to address the fair distribution of costs among Annex I Parties.

Possible collective objectives mentioned:

(a) Percentage reduction per year (e.g., 1-2 per cent per year after 2000);

(b) Percentage reduction by a certain year;

(c) Cap on global emissions through action by Annex I Parties;

(d) Emission budgets for a certain period of time;

(e) Combination of collective absolute target with individual reductions applying to an emissions trend rather than to a base year;

(f) Energy efficiency improvement objectives;

(g) Objectives regarding percentage of renewable energy.

III. CONTINUING TO ADVANCE THE IMPLEMENTATION OF ARTICLE 4.1

1. Identify activities undertaken by all Parties in fulfilment of obligations to advance the implementation of Article 4.1.

2. Role of financial and technological assistance.

3. Diffusion of technology and technology choices.

4. Role of country studies and national programmes.

5. Extent of participation with Annex I Parties in efforts to coordinate actions.

6. Implementation of policies and measures favourable to economic development.

IV. POSSIBLE FEATURES OF A PROTOCOL OR OTHER LEGAL INSTRUMENT

1. **Comprehensiveness:**

   - which gases;
   - gases individually or collectively;
   - removals by sinks.

2. **Institutional arrangements.**

3. **Coordination mechanism and coordination of relevant economic and administrative instruments.**

Appendix

Policies and measures: details

Categories of policies and measures mentioned:

(a) Internationally-oriented industrial processes or sectors, especially those which are energy-intensive (e.g., steel, aluminum, chemicals);

(b) Internationally traded products (e.g., automobiles, appliances);

(c) Measures subject to competitiveness concerns;

(d) Sectors where decisions may have long-term adverse effects on climate change;

(e) Policies and measures with other environmental benefits.

Specific policies or measures mentioned:

(a) Energy efficiency standards and/or labelling for products (e.g., appliances);

(b) Fuel consumption standards and/or labelling for motor vehicles;

(c) Voluntary agreements;

(d) Economic, fiscal or market instruments and mechanisms:

- carbon and/or energy taxes;
- transport related taxes, including on aviation fuels;
- restructuring of existing taxes and subsidies;
- activities implemented jointly; and
- emissions trading;

(e) Increased use of renewable energy;

(f) More efficient and safer means of conventional energy sources now in use (e.g., switching to lower emitting fuels such as clean coal and nuclear technologies);

(g) Methane recovery;

(h) Alternative chemicals;

(i) Auto, rail and air technologies;

(j) Regulation of perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs).

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STRENGTHENING THE COMMITMENTS IN ARTICLE 4.2(A) AND (B) CONTINUING TO ADVANCE THE IMPLEMENTATION OF ARTICLE 4.1

Annotated compilation of information relevant to the Berlin Mandate process

Note by the secretariat

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I. INTRODUCTION

1. At its first session, the Ad Hoc Group on the Berlin Mandate (AGBM) pointed to the wide array of currently available information relevant to the Berlin Mandate process, and to the analysis and assessment in particular. The entities responsible for such information were invited to make this information available to the AGBM to assist in the process (FCCC/AGBM/1995/2, para. 19 (g) and (h)). The AGBM requested the secretariat to prepare for the second session an annotated compilation of information relevant to the Berlin Mandate process (FCCC/AGBM/1995/2, para. 19 (h)(ii)). This annotated compilation will be updated for future sessions as additional information becomes available to the secretariat.

2. In compiling relevant material, the secretariat has taken the following approach:

(a) Information compiled in document A/AC.237/83 is not explicitly repeated in this document but should be considered as implicit in the present compilation;

(b) Information currently under consideration by the Intergovernmental Panel on Climate Change (IPCC) has not been included; it will be included in subsequent editions once approved and available to the secretariat. Some information on the IPCC Special Report, 1994 has been included in this compilation;

(c) Reports submitted by Parties pursuant to a communication by the Executive Secretary dated 13 September 1995 have been taken into consideration in the preparation of this compilation;

(d) Approximately 30 intergovernmental organizations were invited to submit relevant material. Any information received has been taken into consideration, taking into account paragraphs 3 and 5 below;

(e) In a limited number of cases, information from intergovernmental organizations which is available in the reference unit of the climate change secretariat but which had not been specifically identified by the organization concerned, has also been included.

3. The secretariat was hampered by a number of constraints in the preparation of this document, principally the limited time between the first and the second sessions. In addition, it sometimes proved difficult to obtain copies of documents in time to draft annotations.

4. One non-governmental organization, the Edison Electric Institute, provided copies of a number of studies it considered relevant to the Berlin Mandate process.

II. SCOPE OF THE NOTE AND ACTION BY THE AD HOC GROUP ON THE BERLIN MANDATE

5. The annotations consist of descriptions of the contents of compiled documents: they are not intended to summarize the information provided in the document but to give an indication of the issues addressed. In some cases, the annotations were provided by the submitting organization; in others they were prepared by the secretariat. In no case should they be interpreted as representing the views of the secretariat. Some documents that have been made available are not annotated but are only listed (see appendix). In some cases, this was for technical reasons or shortage of time; in others, it was because the scope of the document was too limited.

6. The compilation should not be seen as an exhaustive listing of relevant documents but as an initial attempt to assist the AGBM in identifying and considering the wide range of information relevant to the Berlin Mandate process that is currently available. The secretariat continues to welcome suggestions for additional relevant information which could be used in the preparation of any future editions of the annotated compilation.

7. The AGBM is invited to make use of this compilation at its second session as background information to the discussion under items 3 and 4 of the provisional agenda.

8. The AGBM is further invited to provide guidance to the secretariat on the approach used and on the preparation of any further editions. Bearing in mind the resource-intensive nature of this work and the benefits derived therefrom, the AGBM may wish to indicate the priority to be attached to it.

Annex

COMPILATION OF RELEVANT LITERATURE

A.I. REPORTS SUBMITTED BY PARTIES

Protecting the earth: A status report with recommendations for a new energy policy, German Bundestag (ed.), Bonn, 1991. 2 Vols. Third Report Of The Enquete Commission Of The 11th German Bundestag "Preventive Measures To Protect The Earth's Atmosphere".

1. This two-volume, 1600-page study was prepared by the Enquete Commission of the German Bundestag. It examines both national and international measures designed to reduce energy-related emissions of greenhouse gases in a number of sectors. Issues such as energy efficiency, renewable energy, fuel substitution and nuclear power are addressed, reflecting, in some instances, a range of opinions. The study includes some analysis of the potentials of individual emission reduction measures until 2005 and 2050.

Climate change - threat to global development: acting now to safeguard the future, German Bundestag (ed.), Bonn: Economica Verlag; Karlsruhe: Verlag Müller, 1992. First Report Submitted By The Enquete Commission Of The 12th German Bundestag "Preventive Measures To Protect The Earth's Atmosphere".

2. This study, a continuation of earlier work (see above), while focusing on the science of Climate Change and on possible impacts, also includes some discussion of quantified objectives and time-frames. It also reviews some measures being implemented or proposed at the national, regional and global levels. Particular attention is paid to the energy, transport forestry and agricultural sectors.

Protecting our green earth: how to manage global warming through environmentally sound farming and preservation of the world's forests, German Bundestag (ed.), Bonn: Economica Verlag, 1995. Third Report Submitted By The Enquete Commission Of The 12th German Bundestag "Preventive Measures To Protect The Earth's Atmosphere".

3. This study examines the contributions of the forest and agriculture sectors to Climate Change in terms of sectoral greenhouse gas emissions. In addition, it discusses the possible impacts of Climate Change on these sectors. Ways and means of reducing emissions of CO_2, CH_4 and N_2O in from agriculture are analysed. Much of the discussion relating to forests is addressed to the international context, including that with regard to possible mitigation actions. The study includes differing views of Commission members where these existed.

A.II. REPORT BY THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC), JOINTLY ESTABLISHED BY THE WORLD METEOROLOGICAL ORGANIZATION (WMO) AND THE UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

Summaries for Policymakers and Other Summaries, Intergovernmental Panel on Climate Change, Geneva (Switzerland), 1994. See 3.1 A Report of Working Group III of the IPCC: an evaluation of the IPCC IS92 emission scenarios, pp. 41 - 46.

4. Six scenarios provide estimates of direct and indirect greenhouse gas emissions, by source, for four regions over the period 1990 - 2100 and cover a wide range of values for key input assumptions. This evaluation deals mostly with non-intervention scenarios that do not assume any climate policies to reduce greenhouse gas emissions (although they may assume emission controls for other environmental reasons). The recommendations of the working group include the following:

- New reference scenarios are needed to explore a variety of economic development pathways.
- Policy scenarios are needed to explore a variety of climate policies, instruments and programmes, already developed or yet to be developed, and their results in terms of greenhouse gas emission reductions.
- Endogenous capacity building is crucial. Special effort is needed to improve the capabilities of researchers to analyse and develop scenarios, especially in developing countries and in countries with economies in transition.

A.III. REPORTS BY OTHER UNITED NATIONS AGENCIES

A. Department for Policy Coordination and Sustainable Development (DPCSD)

Report of the Secretary-General on "Structural change in the world economy: implications for energy use and air emissions". (A/47/388)

5. The report is a topic oriented study on selected aspects of long-term structural change in the world economy, energy use and consequent emissions of CO_2, SO_2, and NO_x. Projections of production and air emissions to the year 2020, under different scenarios for economic growth, make particular reference to the energy-intensive economic sectors. Future changes in the world economy are determined by the projected trends in the level and composition of investment, foreign trade and consumption, and by the assumed interregional patterns of moderated technology infusion. These trends in turn determine different rates of growth of economic activities, and thus of energy and materials requirements and levels of air emissions via the inter-industry relationships among and within regions.

Report of the Secretary-General on "Changing global energy patterns". (E/C.13/1994/2)

6. The report analyses changes in global energy consumption and production patterns. Energy consumption is expected to increase at higher rates in developing countries than in the developed market economies. By the year 2020, the share of developing countries in the consumption of fossil fuels may reach 48 per cent of the total world consumption, from the current level of 28 per cent. High energy intensities are expected to continue in developing countries in view of the higher growth rates in economic output. A rapid rise in global energy consumption, especially of fossil fuels, gives rise to environmental concerns.

Report of the Committee for New and Renewable Sources of Energy and on Energy for Development on its first session. (E/1994/25)

7. The United Nations Committee for New and Renewable Sources of Energy and on Energy for Development, at its first session, discussed, *inter alia*, energy and sustainable development, including the linkages between energy and development; environment; security and finite resources; issues concerning overall energy development, with particular emphasis on developing countries; new and renewable sources of energy; and efficient utilization of energy resources; and development of strategies for future energy systems compatible with sustainable development and policies for their implementation.

Report of the Committee for New and Renewable Sources of Energy and on Energy for Development on its special session. (E/1995/25)

8. The United Nations Committee for New and Renewable Sources of Energy and on Energy for Development met in a special session in order to provide advice on energy for rural development to the Commission on Sustainable Development at its third session, to initiate and encourage a process of environmentally sound energy transition in rural communities, from unsustainable energy sources to structured and diversified energy sources, by making available alternative new and renewable sources of energy. The Committee concentrated on recommendations for sustainable energy in the rural areas of developing countries, including small island developing States.

Report of the Secretary-General on "Changing consumption and production patterns". (E/CN.17/1995/13)

9. The report identifies the environmental, social and economic impacts of present production and consumption patterns, including a summary of recent projections and studies, as well as an analysis of policy measures aimed at promoting sustainable production and consumption patterns with a focus on the use of economic instruments. It also reviews recent experiences of a selected number of countries and organizations in changing unsustainable production and consumption patterns, including measures taken toward reduction of CO_2 emissions.

B. United Nations Conference on Trade and Development (UNCTAD)

Combating global warming: possible rules, regulations and administrative arrangements for a global market in CO_2 emission entitlements, Tietenberg, T.; Victor, David; Sandor, Richard; Cole, Joseph; Kelly, Eileen, Geneva (Switzerland), 1994, UNCTAD/GID/8

10. This paper suggests that a global warming agreement be concluded among an initial group of participants (the United States, the European Union and Japan). The agreement would specify the conditions under which other signatories could participate in a proposed tradeable CO_2 entitlement programme. It argues that economic history and theory, as well as the early experience of the SO_2 entitlement programme, suggest that such a programme will provide the least cost solution to the global warming problem.

11. An essential component of effective implementation is the development of clear legal and statutory authority for the international trading and transfer of CO_2 emission credits. An international clearing house must also be established. Trading in CO_2 emission credits will naturally gravitate to the most efficient, least cost trading forum. The design of an international market place should encourage competition between the various trading forums, such as organized exchanges, electronic trading systems and over-the-counter mechanisms.

12. The paper makes recommendations for the development of a global market for the trading of CO_2 emission credits in order to stimulate debate and promote further development of the concept.

Controlling carbon dioxide emissions: the tradeable permit system, United Nations Conference on Trade and Development, Geneva (Switzerland), 1995, UNCTAD/GID/11

13. Studies on tradeable CO_2 emission entitlements focus on the themes of feasibility and implementation. Extensive research has helped to clarify the former, while the latter has become a matter of overriding concern for Governments, international organizations, and non-governmental organizations, all seeking practical, cost-efficient mechanisms to deal with global and environmental problems and their financing.

14. The studies carried out by the UNCTAD secretariat have shown that tradeable permits are both an efficient means of controlling CO_2 emissions at minimum cost, and an effective mechanism for transferring resources to developing countries and to countries in transition to help them to contribute to the international effort to abate emissions of greenhouse gases. They have also revealed that a viable implementation strategy should begin with a simple pilot scheme based on the joint implementation of commitments, a facet of the Framework Convention on Climate Change, and evolve gradually to a more complete system on the basis of 'learning by doing'. Some of the major emitters need to act as pioneers.

C. United Nations Environment Programme (UNEP)

Climate change and energy efficiency in industry, United Nations Environment Programme, Industry and Environment Office; International Petroleum Industry Environmental Conservation Association, Paris; London, 1991

15. This publication is devoted to climate change and industry. In addition to a number of reports on activities from several organizations and countries, it includes short articles on subjects such as clean coal technologies, energy efficiency, climatic architecture, power development, innovative energy technologies and the insurance industry.

UNEP greenhouse gas abatement costing studies: analysis of abatement costing issues and preparation of a methodology to undertake national greenhouse gas abatement costing studies: Phase two report, United Nations Environment Programme, Roskilde (Denmark), 1993

and

UNEP greenhouse gas abatement costing studies: analysis of abatement costing issues and preparation of a methodology to undertake national greenhouse gas abatement costing studies: Phase two report: Appendix II: Country summaries, United Nations Environment Programme, Roskilde (Denmark)

16. The UNEP project on developing a common methodological approach for assessing the costs of limiting greenhouse gas emissions was initiated in 1991 in a bid to improve understanding of the subject, and to help lay the basis for national studies of the economic issues which would be accepted as objective, accurate and comparable between countries.

17. Economic studies of the issues have spanned a wide range, with some claiming that reducing CO_2 emissions would cripple economies and seriously damage growth in developing countries. Others have suggested much more modest impacts and even net economic gains arising from increased energy system efficiency and reduced vulnerability to volatile fossil fuel prices. Furthermore, it has been evident for a long time that national economic assessments would come to play an important role in international negotiations, and that the methodologies used, and the comparability of different national studies, would become important issues.

Climate change and industry, United Nations Environment Programme, Industry and Environment, Paris, 1994 (*Industry and Environment; Vol.17, No.1*)

18. This publication provides initial guidance to industrial management and Governments in exploring the potential benefits of voluntary agreements to improved energy efficiency. It is essentially an introduction to the process of energy auditing, supported by practical examples. The approaches described draw on the extensive experience of energy efficiency

management in the international oil industry, but the content focuses mainly on the small- to medium- sized operations in many sectors of industry, particularly in developing countries. This report does not address the question of energy efficiency in the energy generation industry or in the heavy industrial sector.

Transport and the environment, United Nations Environment Programme, Industry and Environment, Paris, 1993 (*Industry and Environment, Vol.16, No.1-2*)

19. The articles in this issue explore the theme of sustainability, as stressed in Agenda 21, and its implications on the transport industry. The articles reflect the diversity of opinion on policy and technical options. They underline the need for more intense dialogue between all parties, at the international and national level.

D. United Nations Economic Commission for Europe (UNECE)

Manual on financial engineering: sources of finance for energy efficiency projects (1994), ENERGY/WP.4/R.1

20. Many international institutions have financial resources available for economic development in economies in transition, including energy efficiency and environmental components. In this manual the major institutions for financial help and bilateral aid programmes as well as organizations which provide technical assistance, are discussed. The manual is designed to provide a key source of information about the sources of finance for energy efficiency projects.

Manual on business planning: how to construct a business plan for energy efficiency projects (1994), ENERGY/WP.4/R.2

21. This book is intended to answer questions likely to be raised by potential investors, sponsors and entrepreneurs considering an approach to financial institutions. The manual aims to provide information on financing methods adapted to the practices of the market economy for countries in the process of transition to a market economy, and who may have no tradition of these practices, or the requirements needed to obtain money to finance their projects in a commercial fashion.

The energy efficiency 2000 project and energy-efficiency demonstration zones in eastern and central Europe (1994), Natural Resources Forum 18 (4) 287-292

22. The concept behind the project is that environmental conditions throughout Europe can be enhanced by the introduction of energy-efficient technology in central and eastern Europe as existing energy using systems wear out and are replaced. The project has produced useful information on policies, technologies and databases on experts and businesses working in this field. In order to achieve this objective the project was designed to produce a professional network, information exchange, a list of technologies, pilot projects and the identification of energy-efficient practices.

Strategies and policies for air pollution abatement: 1995 review, UNECE, ECE/EB.AIR/44

23. This publication provides detailed information in a tabular form on: ambient air quality standards, fuel quality standards, and emission standards applied by Parties to the Convention on Long-range Transboundary Air Pollution. It publishes detailed data on emissions of sulphur dioxide, nitrogen oxides, ammonia, volatile organic compounds, methane, carbon monoxide and carbon dioxide. These data are provided for the years 1980 to 1994 and in the form of projections up to the year 2010. The different sources of emissions are separated and maps show their geographic distribution over Europe. The report also contains maps of Europe showing critical loads of acidity, an indication of different environmental sensitivities in different parts of Europe.

Draft guidelines for a common strategy regarding transport and the environment (1995), ECE/RCTE/PC/10/REV.3

24. The Governments of the ECE countries have undertaken to pursue the objective of sustainable transport development by helping to reduce the negative impact of transport on the environment and to promote the most environment-friendly modes of transport. In order to achieve this objective, transport development policies and strategies compatible with the protection of the environment and of health will need to take into account environmental, economic and social costs and benefits and to permit the internalization of external costs using appropriate instruments.

25. This document contains the draft guidelines as agreed upon by member States. These guidelines provide the basis for Governments of the ECE countries to draw up transport policies and programmes containing various types of measures, for example, promoting stricter measures on vehicle emissions in urban and other densely populated areas and ensuring that transport of dangerous goods and hazardous wastes is made safer.

Energy efficiency demonstration zones in central and eastern Europe: preparatory assistance phase (RER/94/G41), (1995)

26. Following on from the development objective, the immediate objective discussed in this paper is to implement viable energy efficiency strategies in three demonstration zones - the aim being to demonstrate, on a city-wide scale, the combined effect of energy-efficient technology, energy pricing policy, favorable tariff structures, advisory services, information campaigns, metering, monitoring and controls, energy audits, tax incentives, grants and government-guaranteed loan schemes, international technical assistance and trade development programmes. The intention is to replicate successful measures nationally once proven on a limited scale.

Integrated assessment modelling of nitrogen compounds (1995), UNECE, EB.AIR/WG.5/R.49, pp. 9-14

27. This report identifies conclusions and recommendations on issues relating to the implications for air pollution as discussed at the workshop on restructuring of energy systems. Specifically, the conclusions provide projections of energy developments in central and Eastern Europe, the potential effects of restructuring energy systems, energy pricing, and costs and benefits.

International legal instruments on the protection of the environment in the field of transport (1995), ECE/RCTE/PC/9/REV.1

28. This document contains a first list of ECE agreements and regulations in force which establish specific international requirements and/or limits for the reduction of the environmental impacts of road transport. It also lists a number of related ECE resolutions in the field of inland water transport. With regard to other modes, a first list of relevant legal instruments, resolutions and norms has also been elaborated by the secretariat on the basis of information obtained from other international organizations.

E. United Nations Economic Commission for Africa (UNECA)

African conference on policy options and responses to climate change: conference statement, Stockholm Environment Institute; African Centre for Technology Studies, Stockholm; Nairobi, 1995. Also available in French (Record Number 1788)

29. The conference considered that Africa's ecosystems and socio-economic systems are most valuable to possible adverse effects of climate change. It is a statement relating to the potential African positions on climate change, the building of capacity in various areas, the additional funds required by African countries in their contribution to international climate change mitigation efforts, the access to appropriate technology, and the question of joint implementation.

A.IV. REPORTS BY OTHER INTERGOVERNMENTAL ORGANIZATIONS

A. Organisation for Economic Co-operation and Development (OECD)

Markets for tradeable CO_2 emission quotas: principles and practice, Chichilnisky, Graciela; Heal, Geoffrey, Paris, 1995, *(Economics Department Working Papers No. 153)*, OCDE/GD(95)9

30. This paper reviews a range of issues relating to tradeable carbon dioxide emission quotas (TEQs). It considers the economic principles on which they are based and compares them with the alternative carbon abatement policies, and reviews many aspects of how tradeable quotas would be implemented in practice. It explains why the issues are on the agenda and how they relate to current issues such as joint implementation.

31. It argues that the principal alternative to a TEQ regime is the adoption of carbon taxes: salient aspects of two policy approaches are compared and combinations of these analysed. The allocation of TEQs among participating countries is questioned and issues connected with the implementation of TEQs, analysing questions associated with design and management of a TEQ market, addressed.

Energy efficiency and the environment, OECD, Paris, 1991

32. This study reviews past energy efficiency developments and policies and examines the future scope for energy efficiency. It examines in detail the technical and market factors that are likely to determine the cost-effectiveness of energy efficiency improvements in a range of end-use sectors. In addition, on the basis of available country-specific studies of the scope and costs of energy efficient strategies , it is possible to assess the macroeconomic impact of measures designed to accelerate the penetration of energy efficient technologies. Finally, the study points to areas for further work, particularly in the terms of improved data and information on energy use and on the cost-effectiveness of energy efficiency investments.

Dialogue with vehicle manufacturers: joint declaration, ECMT, Paris, 1995, CEMT/CM(95)5/FINAL

33. The Council of the European Conference of Ministers of Transport (ECMT) and the vehicle manufacturing industry agreed on a Declaration on reducing CO_2 emissions from passenger vehicles in ECMT countries. The objectives of this voluntary agreement are to reduce fuel consumption of new cars and better manage vehicle use. The Declaration identifies a number of measures to be taken by Government (for example, provision of a policy framework, encouraging new technologies and road traffic informatics and improving fleet maintenance and replacement), by industry (for example, developing, manufacturing and marketing new cars), and by Government and industry jointly (for example, marketing, technology development, public education and information). The Declaration also provides for follow-up activities, including trend analysis and reporting.

B. International Energy Agency (IEA)

World energy outlook, International Energy Agency, Paris, 1995

34. The 1995 edition of the *World Energy Outlook* adds to the IEA's ongoing analysis of global energy markets until the year 2010. This year's edition presents two alternative scenarios: one which foresees capacity constraints which will put upward pressure on energy prices; and a second which examines the potential for energy savings to reduce the growth rate of energy demand. In both cases, world energy demand will grow over the next fifteen years, but more slowly than the rate of economic growth. The importance of the global transportation sector is examined in detail. The study also provides in-depth regional analysis of longer term energy prospects in OECD North America, South and Central America, Africa and South Asia. These regional studies follow on the work presented in last year's outlook on the rapidly changing Asia-Pacific regions and Central and Eastern Europe. The Outlook includes some discussion related to the environmental implications of the energy demand projections. This includes projections of increasing CO_2 emissions to 2010, with some regional breakdowns. There is also some discussion of world biomass consumption and renewable energy sources.

Energy policies of IEA countries: 1994 review, International Energy Agency, Paris, 1995

35. This 1994 edition contributes to the IEA's ongoing analysis of countries' energy policies and market developments. It reviews recent trends and developments in energy demand and supply, efficiency, technology and environment. This year's edition includes: critical reviews of all 23 IEA member countries, in-depth reviews of Finland, Ireland, Italy, Japan, Luxembourg and Switzerland; a synthesis report highlighting major energy policy developments and market trends in IEA member countries and an overview of significant energy developments elsewhere in the world; and an analysis of trends in key energy indicators over a twenty year period.

Energy technologies to reduce CO_2 emissions in Europe: prospects, competition, synergy (Petten, 11-12 April 1994), International Energy Agency, Paris, 1995

36. Even if currently available technologies are taken up to a significant extent, they can only be expected to provide a partial solution to the longer term concerns about global climate change. The development and deployment of new and improved technologies will be essential if atmospheric concentrations of greenhouse gases are to be reduced significantly. This volume of proceedings explores the prospects in Europe for a wide range of new and improved energy technologies, and examines the interrelationships between those technologies over the longer term under a scenario of drastically reduced CO_2 emissions.

Global climate change: policy statement and potential to reduce carbon dioxide emissions: technical report, International Energy Agency, Coal Industry Advisory Board, Paris, 1991

37. This document consists of two parts: a policy statement on the issue of global climate change and a technical report on the potential to reduce carbon dioxide emissions. The policy statement focuses on key principles to be taken into account in developing policies for dealing with global climate change policy, while the technical report identifies coal technologies that can bring substantial reductions in carbon dioxide emissions. It also quantifies the potential percentage reductions that can be achieved if these technologies are widely deployed.

Energy prices and taxes, International Energy Agency, Paris, 1995

38. This quarterly publication provides statistics on prices and taxes on all energy sources and main consuming sectors and selected data for some non-OECD countries. It includes details on recent energy price developments, import and export prices, price indices for crude oil, steam coal, caking coal and natural gas and trade regulations and duties.

39. It provides energy end-use prices, taxes and price indices in national currencies for all OECD countries and a number of non-OECD countries for a number of products including automotive fuels, light fuel oil, heavy fuel oil, electricity, natural gas, steam coal, caking coal, and, where applicable, prices for industry, electricity generation, and households.

Industry attitudes to steam cycle clean coal technologies: survey of current status, International Energy Agency, Paris, 1995

40. This study reviews the future prospects for coal-based power generation, the current and likely future development of pulverized fuel-firing and atmospheric fluidised bed combustion units, and the future of steam cycle technologies, based on an industry survey. Unlike other advanced clean coal technologies, these technologies use a steam cycle (but no gas turbine) to convert heat into power. The study shows that modern pulverized fuel plant can be both clean and efficient, and is likely to be the technology chosen by utilities throughout the world for the next generation of coal-fired power plant.

41. This is the second of a proposed series of three publications. The first *Industry attitudes to combined cycle clean coal technologies - survey of current status* (IEA 1994) covered the current status of coal-based generation using combined cycle technologies (integrated gasification combined cycle and pressurized fluidised bed combustion). The third study in the series (to be published soon) will bring together the results and identify the way forward for advanced clean coal technologies.

Reconciling transportation, environmental and energy issues (Budapest, 30 May - 1 June 1994), International Energy Agency, Paris, 1995

42. Striking a balance to meet the crucial objectives of transportation efficiency, environmental protection and energy security was the theme of a conference held in Budapest in 1994, where public and private-sector actors joined forces to seek ways to develop and implement public transportation options that are clean, fuel-efficient and environmentally sound.

Forthcoming:

Climate change policy initiatives. Volume II: non-OECD countries 1994-1995 update, International Energy Agency, Paris, 1995

43. This book will provide recent information on the development of national policies to limit energy-related emissions of CO_2 and other greenhouse gases of some 20 non-OECD countries (major developing countries and countries with economies in transition). It will give details on these countries' energy sectors, as well as trends in energy supply and consumption and related CO_2 emissions.

Comparing energy technologies, International Energy Agency, Paris, 1995

44. This publication considers the state of the art in methodologies for assessing and comparing energy technologies, and the strengths and weaknesses of current practice. It presents experts' reports on energy R&D approaches and assessment criteria strategies in Canada, Denmark, France, Italy, Japan, the Netherlands, the United Kingdom, the United States and the European Union.

Policy aspects of renewable energy in OECD and non-OECD countries, International Energy Agency, Paris, 1995

45. This report will give a global view of policy prospects for different renewable energy sources. It will provide a focused assessment of current trends and the scope for future exploitation of renewables in OECD countries and non-OECD regions. Policy options that have been employed to increase the use of renewable energies, as well as approaches that might be appropriate for the future will be examined, taking into account the changing nature of energy policy and the structure of energy markets, especially with respect to electricity.

Voluntary actions for energy-related CO_2 abatement, International Energy Agency, Paris, 1995

46. This study, the second in the series *energy and environment policy analysis*, will focus on the use of voluntary approaches in IEA countries as a policy tool to achieve energy and environmental goals, and their potential contribution to achieving, *inter alia*, greenhouse gas abatement objectives. The report will include a detailed annex on all IEA member voluntary programmes and initiatives in this area.

C. Organization of Petroleum Exporting Countries (OPEC)

Energy taxation and economic growth, Seymour, Adam; Mabro, Robert, Vienna, 1994 *(Pamphlet Series; No. 30)*

47. This report focuses on energy taxation, especially with regard to oil, as a policy tool in developing countries. However, it also addresses to some extent taxation issues related to environmental externalities, including policy responses to climate change. It also includes some case studies of energy, particularly oil, taxation in developed countries, including environmental taxes. The study's main thesis is that the case for oil taxation is being promoted without due consideration for the central role of energy in economic growth and development and its importance for the welfare of citizens.

D. Asian Development Bank (ADB)

A study of a least-cost greenhouse gas abatement strategy project (ALGAS), ADB

48. The objective of the ALGAS project is to help reduce emissions of greenhouse gases (GHG) from the Asian region. Key ALGAS activities include:

- Developing and improving the national and regional capacity to prepare baseline inventories of GHG emissions and sinks to meet the standards and requirements of the United Nations Framework Convention on Climate Change;

- Improving the reliability of GHG emission and sink inventories for the region;

- Developing national and regional capacities to identify, formulate, and analyse GHG abatement initiatives for several Asian countries (China, India, Indonesia, Republic of Korea, and Thailand);

- Developing and implementing national and regional least-cost GHG abatement strategies through the preparation of national mitigation plans and a portfolio of viable, least-cost GHG abatement projects that will dovetail the country's economic development strategy.

Climate change in Asia: executive summary, Qureshi, Ata (ed.); Hobbie, David (ed.), Manila: Asian Development Bank, 1994 (Regional Study on Global Environmental Issues)

and

Climate change in Asia: thematic overview, Qureshi, Ata (ed.); Hobbie, David (ed.), Manila: Asian Development Bank, 1994 (Regional Study on Global Environmental Issues)

49. These studies investigate the implications of climate change for coastal zones, agriculture, forestry, water resources, energy and other vital sectors, in eight countries of the Asian Pacific region, namely, Pakistan, India, Sri Lanka and Bangladesh in south Asia and Indonesia, Malaysia, Viet Nam and the Philippines in south-east Asia. A volume containing a summary of these findings has been devoted to a thematic overview of climate change implications and responses for agriculture, forestry and land use, water resources and coastal areas, national inventories of greenhouse gases mitigation measures and socioeconomic impacts.

E. South Pacific Regional Environment Programme (SPREP)

Summary report of the first coastal protection meeting, South Pacific Regional Environment Programme; South Pacific Applied Geoscience Commission, Apia (Western Samoa), 1994 , First Coastal Protection Meeting, 21-23 February 1994, Apia, Western Samoa

and

Summary report of the second coastal protection meeting, South Pacific Regional Environment Programme; South Pacific Applied Geoscience Commission, Suva (Fiji) - Second Coastal Protection Meeting, 16-20 May 1994, Apia, Suva, (Fiji)

50. SPREP in collaboration with South Pacific Applied Geoscience Commission convened two workshops to examine the provision of adequate coastal protection systems in the region. The meeting considered options ranging from managing natural coastal systems through to the use of man made structures and barriers to prevent coastal erosion and degradation. Among its recommendations, the participants identified the need for an integrated coastal zone management programme to comnbat the problems identified.

Appendix

ADDITIONAL REPORTS BY INTERNATIONAL ORGANIZATIONS

A. Asian Development Bank (ADB)

Climate change in Asia: Malaysia, Qureshi, Ata (ed.), Manila: Asian Development Bank, 1994, *(Regional Study on Global Environmental Issues)*

Climate change in Asia: India, Qureshi, Ata (ed.), Manila: Asian Development Bank, 1994, *(Regional Study on Global Environmental Issues)*

Climate change in Asia: Indonesia, Qureshi, Ata (ed.), Manila: Asian Development Bank, 1994, *(Regional Study on Global Environmental Issues)*

Climate change in Asia: Philippines, Qureshi, Ata (ed.), Manila: Asian Development Bank, 1994, *(Regional Study on Global Environmental Issues)*

Climate change in Asia: Pakistan, Qureshi, Ata (ed.), Manila: Asian Development Bank, 1994, *(Regional Study on Global Environmental Issues)*

Climate change in Asia: Bangladesh, Qureshi, Ata (ed.), Manila: Asian Development Bank, 1994, *(Regional Study on Global Environmental Issues)*

Climate change in Asia: Sri Lanka, Qureshi, Ata (ed.), Manila: Asian Development Bank, 1994, *(Regional Study on Global Environmental Issues)*

Climate change in Asia: Viet Nam, Qureshi, Ata (ed.), Manila: Asian Development Bank, 1994, *(Regional Study on Global Environmental Issues)*

National response strategy for global climate change: People's Republic of China: final report of the technical assistance project, Argonne National Laboratory, East-West Center; Tsinghua University, Argonne (Il), 1994.

Preparation of a national strategy on global climate change: Thailand, Thailand Development Research Institute; Thailand Environment Institute, Bangkok, 1993 - Draft final report

B. Food and Agriculture Organization of the United Nations (FAO)

FAO Yearbook 1993: Forest Products 1982-1993 = FAO Annuaire 1993: Produits Forestiers 1982-1993 = FAO Anuario 1993: Productos Forestales 1982-1993, Food and Agriculture Organization, Rome, 1995, (*FAO Statistics Series; No. 122, FAO Forestry Series; No. 28*)

FAO Yearbook 1994: Production = FAO Annuaire 1994: Production = FAO Anuario 1994: Produccion, Food and Agriculture Organization, Rome, 1995 - (*Vol. 48; FAO Statistics Series; No. 125*)

Global climatic change and agricultural production: direct effects of changing hydrological and plant physiological processes, United Nations. Food and Agriculture Organization. Interdepartmental Group on Climate Change; United Nations Environmental Programme, Rome, 1993. Highlights from an Expert Consultation on Global Climatic Change and Agricultural Production: Direct Effects of Changing Hydrological and Plant Physiological Processes, 7-10 December 1993, Rome

World agriculture: towards 2010: an FAO study, Alexandratos, Nikos (ed.), Rome: Food and Agriculture Organization; Chichester: John Wiley and Sons, 1995

C. Organisation for Economic Co-operation and Development (OECD)

Background paper prepared for the OECD workshop on sustainable consumption and production: clarifying the concepts, 2-4 July 1995, Rosendal, Norway, OECD, Paris, 1995

Climate Change: designing a practical tax system, OECD, Paris, 1992

Climate Change: designing a tradable permit system, OECD, Paris, 1992

A comparison of carbon taxes in selected OECD countries, Haugland, T., Paris: OECD, 1993, *(OECD Monographs Series)*

The costs of cutting carbon emissions: results from global models, OECD, Paris, 1993

Developed countries views concerning environmentally sound technology transfer and information, Yakowitz, H., Paris, OECD, 1994. A paper presented to the UNCSD workshop on the promotion and access to and dissemination of information on environmentally sound technologies, Seoul, Korea

The economic costs of reducing CO_2 emissions, OECD, Paris, 1992, (*OECD Economic Studies; No. 19*)

Economic instruments and climate change, OECD, Paris, 1993

Electric vehicles: technology, performance and potential, OECD, IEA, Paris, 1993

Energy conservation policies and technologies in Japan: a survey, OECD, Paris, 1994

Environment-economy policy integration: a progress report, OECD, Paris, 1995 (forthcoming)

Environmental taxes in OECD countries, OECD, Paris, 1995

Global warming: economic dimensions and policy responses, OECD, Paris, 1995

Global warming: the benefits of emission abatement, OECD, Paris, 1992

Greenhouse gas emissions: the energy dimension, OECD, Paris, 1991

Internalising the social costs of transport, OECD, ECMT, Paris, 1994

Motor vehicle pollution: reduction strategies beyond 2010, OECD, Paris, 1995

OECD government experts meeting on climate change: annotated agenda and issues paper, OECD, Paris, 1993, Env/epoc(93)13

OECD workshop on development assistance and technology co-operation for cleaner industrial production in developing countries, OECD, Paris, 1994, OECD/GD(95)42

Promoting cleaner production in developing countries: the role of development assistance, OECD, Paris, 1995 (Forthcoming)

D. United Nations Conference on Trade and Development (UNCTAD)

Accounting for sustainable forestry management: a case study, United Nations Conference on Trade and Development, Geneva, 1994, UNCTAD/DTCI/4

E. United Nations Economic Commission for Latin America and the Carribean (UNECLAC)

Climate Change and water management in Latin America and the Caribbean, Economic Commission for Latin America and the Caribbean, Santiago, 1993, LC/R.1274

Ecosystem and socioeconomic response to future climatic conditions in the marine and coastal regions of the Caribbean Sea, Gulf of Mexico, Bahamas, and the north-east coast of South America, Maul, George A., Kingston: United Nations Environment Programme. Caribbean Environment Programme, 1993, (*CEP Technical Report; No. 22*)

La convencion marco del cambio climatico: una aproximacion a la luz de las prioridades de America Latina y el Caribe. Parte II: los instrumentos internacionales para la proteccion de la capa de ozono. Parte III: los posibles mecanismos de transferencia de tecnologia, Comisión Económica Para América Latina y el Caribe, Santiago, 1994 , LC/R.1367/ADD.1

La convencion marco del cambio climatico: una aproximacion a la luz de las prioridades de America Latina y el Caribe. Parte I: el escenario actual, Comisión Económica Para América Latina y el Caribe, Santiago, 1994, LC/R.1367

Possible climatic changes in Latin America and the Caribbean and their consequences, Economic Commission for Latin America and the Caribbean, Santiago, 1990, LC/L.580(SEM.56/4)

Report on the meeting of the expert group responsible for studying the possible effects of climate change on the water resources of Latin America and the Caribbean, Economic Commission for Latin America and the Caribbean, Santiago, 1994, LC/R.1371(SEM.72/3). Unofficial translation of document LC/G.1798(SEM.72/3)

F. United Nations Environment Programme (UNEP)

1994 report of the Economics Options Committee: 1995 assessment, United Nations Environment Programme. Montreal Protocol on Substances that Deplete the Ozone Layer, Nairobi, 1994

Environmental effects of ozone depletion: 1994 assessment, United Nations Environment Programme. Montreal Protocol on Substances that Deplete the Ozone Layer, Nairobi, 1994

Scientific assessment of ozone depletion: 1994, United Nations Environment Programme. Montreal Protocol on Substances that Deplete the Ozone Layer, Nairobi, 1994

G. United Nations Educational, Social and Cultural Organisation (UNESCO)

Impact of expected climate change on mangroves, UNESCO; United Nations Environment Programme, Paris, 1993, (*UNESCO Reports in Marine Science ; No. 61*).- Report of the First Meeting of the UNEP-UNESCO Task Team, 1-3 June 1992, Rio De Janeiro, Brasil

International meeting of scientific and technical experts on climate change and oceans, 19-21 July 1991, Malta, UNESCO. Intergovernmental Oceanographic Commission, Paris, 1992 - IOC/STECCO/3

IOC committee for the Global Ocean Observing System (GOOS): First Session, 16-19 February 1993, Paris, UNESCO, Paris, 1993, IOC/GOOS-I/3

Les zones arides dans les programmes de l'UNESCO, Skouri, Mohamed (ed.), Paris: UNESCO, 1995

Second international meeting of scientific and technical experts on climate change and the oceans, 6-8 October 1994, Malta, UNESCO. Intergovernmental Oceanographic Commission, Paris, 1995, IOC/STECCO-II/3

Sixth planning meeting on world climate programme - water (Wallingfor, 1-5 March 1993), World Meteorological Organization; UNESCO, Geneva, 1995 (*World Climate Applications and Services Programme; WCASP-29, WMO/TD; No. 609*)

Using archival resources for climate history research, Dhérent, Catherine; Petit-Renaud, Gérard, Paris: UNESCO. International Hydrological Programme, 1994, SC-94/WS.6; IHP-IV

World conference on natural disaster reduction: scientific and technical poster session, 23-27 May 1994, Yokohama, Japan, Italian National Agency for New Technology, Energy, and the Environment; UNESCO, Rome, 1994, Abstract of Sessions

H. World Meteorological Organization (WMO)

Annual bulletin on the climate in WMO region VI - Europe and Middle East, 1994, World Meteorological Organization. World Climate Data and Monitoring Programme; European Climate Support Network; Deutscher Wetterdienst, Geneva, 1994

Atmospheric model intercomparison project (AMIP): intraseasonal oscillations in 15 atmospheric general circulation models (results from an AMIP diagnostic subproject), World Climate Research Programme, Geneva: World Meteorological Organization, Geneva, 1995, (*World Climate Research Programme; WCRSP-88*), WMO/TD - NO. 661

Clivar: a study of climate variability and predictability: science plan, World Climate Research Programme. Clivar Scientific Steering Group, Geneva: World Meteorological Organization, Geneva, 1995, (*World Climate Research Programme; WCASP-29)* WMO/TD - No. 690

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Item 3 (a) of the provisional agenda

STRENGTHENING THE COMMITMENTS IN ARTICLE 4.2(A) AND (B)

POLICIES AND MEASURES

Synthesized list of policies and measures identified by Annex I Parties in their national communications *

Note by the secretariat

1. At its first session, the Ad Hoc Group on the Berlin Mandate (AGBM) requested the secretariat to prepare for consideration at the second session "a synthesized listing of policies and measures, also by sector, identified in the national communications of Annex I Parties" (FCCC/AGBM/1995/2, para. 19 (h) (iv)). This synthesized list is found in the annex to this note.

2. The synthesized list has been prepared on the basis of an examination of 27 national communications submitted by Annex I Parties as at 2 October 1995 (see appendix for a list of these Parties). Well over 1,000 policies and measures are described in these national communications; in order to reduce repetition, where these vary only slightly, they have been included as a single measure. While this has reduced the amount of detail provided on these initiatives, the list nevertheless preserves a sense of the range of policies and measures reported by Annex I Parties.

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* The term "national communications" includes communications from the regional economic integration organization included in Annex I to the Convention.

3. It should also be noted that the secretariat did not seek supplementary information from Parties on policies and measures reported, even though they are often described at very different levels of detail in the communications. As a result, some policies and measures may not have been placed in the correct categories of the synthesized list and some policies and measures for which little information was provided may not be included in the list. Information from the in-depth reviews has been included to the extent possible.

4. Finally, the list attempts to cover policies and measures which have either been implemented or for which implementation is planned. Policies and measures that are clearly only under study at this time have been excluded.

5. The synthesized list has been structured in a manner consistent with the earlier document "Compilation and synthesis of national communications from Annex I Parties" (A/AC.237/81). Accordingly, the list has been categorized under the following sector headings:

I. Energy and transformation industries
II. Industry
III. Residential, commercial and institutional
IV. Transportation
V. Industrial processes
VI. Agriculture
VII. Land use change and forestry
VIII. Waste management and sewage treatment
IX. Cross-sectoral economic instruments

6. Under each sector heading, a number of subheadings are provided that describe areas of opportunity or overall policy objectives for greenhouse gas emission reductions. Policies and measures that Annex I Parties have reported on with respect to the exploitation of these opportunities are listed under these subheadings and are further categorized by the policy instrument used:

- regulations and guidelines
- economic instruments and incentives
- voluntary agreements and actions
- information, education and training
- research, development and demonstration

The secretariat believes that this approach has the merit of providing a greater breadth of description. At the same time, however, it leads to repetition of policies and measures under different categories and subheadings.

7. The synthesized list also attempts to provide an indication of the number of Annex I Parties that reported on a specific policy or measure in their national communication. The following annotation system has been used:

¶	reported by 1-5 Annex I Parties;
¶¶	reported by 6-10 Annex I Parties;
¶¶¶	reported by 11-15 Annex I Parties;
¶¶¶¶	reported by more than 15 Annex I Parties.

It must be stressed that references to the number of Annex I Parties that have reported on specific policies and measures is illustrative and a reflection of the data available. The annotation system does not attempt to demonstrate the relative importance of different policies and measures in terms of their greenhouse gas mitigation potential.

8. While it is not proposed that this document be considered in depth at the second session, delegations may wish to use it as a tool to facilitate the discussions under relevant items of the provisional agenda, and in particular, item 3 (a).

Annex

SYNTHESIZED LIST OF POLICIES AND MEASURES

I. ENERGY AND TRANSFORMATION INDUSTRIES

A. Restructuring energy markets

Regulations and guidelines

- regulatory reform that increases competition by providing access to the grid for small and independent power producers (for example, through laws that break up producer monopolies, open up transmission and distribution networks, or provide an increased or guaranteed price for power from new producers) ¶¶¶
- regulatory reform that requires utilities to practice least-cost planning and/or integrated resource planning ¶
- regulatory reform that removes barriers to the transmission and distribution of natural gas ¶

Information, education and training

- providing information on the practice of integrated resource planning ¶

Research, development and demonstration

- research on the potential role of the international electricity trade in CO_2 reductions ¶
- research into the development of tools to facilitate least-cost planning ¶

B. Existing facilities: improving energy efficiency and reducing fugitive emissions

Regulations and guidelines

- NO_x and SO_x emission control standards for power generation facilities ¶¶¶
- regulations requiring energy efficiency improvements in power generation facilities ¶

Economic instruments and incentives

- financial support and incentives for the installation of combined heat and power generation in existing facilities (for example, subsidies for feasibility studies and construction, lower tax rate on the fuels used in cogeneration) ¶¶¶
- financial support to make energy efficiency improvements in existing facilities or to convert them to more efficient technologies (for example, coal, nuclear, hydro) ¶¶
- NO_x or SO_x emission charges ¶

Voluntary agreements and actions

- voluntary agreements to reduce flaring and venting in natural gas production ¶
- voluntary agreements to undertake energy efficiency improvements at energy supply and transformation facilities ¶
- voluntary agreement to promote and implement combined heat and power facilities ¶
- voluntary agreements to reduce NO_x and SO_x emissions ¶

Information, education and training

- providing information on combined heat and power opportunities ¶

Research, development and demonstration

- research into energy efficiency improvements in energy supply technologies (for example, clean coal, peat) ¶¶
- research on CO_2 capture and injection ¶
- research to enhance the efficiency of natural gas production ¶
- research into combined heat and power production ¶
- research on NO_x or SO_x emissions control technology ¶

C. Increasing the use of non-fossil fuel energy sources and low-carbon fossil fuels

Regulations and guidelines

- requirements that utilities produce a certain percentage of power from renewable sources ¶
- obligations to close inefficient, high-polluting power generation facilities (for example, brown coal) and replace them with low carbon or no carbon energy sources ¶
- regulations requiring the production of energy from coalmine methane ¶

- relaxation of regulatory requirements for siting renewable energy facilities ¶
- requirements to use biomass fuels as a power source in agricultural facilities ¶
- regulatory reform that removes barriers to the construction of new nuclear power plants ¶

Economic instruments and incentives

- financial incentives (for example, subsidies, tax relief, loans, removal of duties) to promote the development of new renewable energy production facilities, particularly biomass, solar and wind technologies ¶¶¶¶
- financial support for new nuclear power plant construction ¶
- financial support for new hydroelectric power plant construction ¶
- financial incentives to switch to natural gas as the energy source in existing facilities ¶
- financial support for the construction of new natural gas power generation facilities ¶
- financial support for the construction of pipelines to provide access to natural gas ¶
- financial support for the construction of new, more efficient coal-based power plants ¶

Voluntary agreements and actions

- voluntary agreements to use coal-bed methane as an energy source ¶
- voluntary agreements to use biomass as an energy source in the agriculture and forestry sectors ¶
- voluntary agreements to switch to natural gas as an energy source in existing power generation facilities ¶
- voluntary partnerships to develop and commercialize renewable energy technologies ¶

Information, education and training

- providing information on renewable energy supply technologies ¶¶

Research, development and demonstration

- research into renewable energy supply technologies, particularly biomass, solar and wind technologies ¶¶¶¶
- research into fuel cell technologies ¶
- research into nuclear energy technologies ¶
- research into converting coalmine methane into energy ¶

D. Energy transmission and distribution

Regulations and guidelines

- regulations promoting more effective monitoring, maintenance and repair of natural gas pipelines ¶¶
- regulated distribution transformer standards ¶
- regulations to optimize use of transmission lines ¶

Economic instruments and incentives

- financial incentives (for example, subsidies) to promote the adoption of district heating within groups of existing buildings ¶¶
- financial support for upgrading transmission lines ¶
- financial support for repairing natural gas pipelines ¶

Voluntary agreements and actions

- voluntary agreements to reduce natural gas leakage from pipelines ¶
- voluntary agreements to implement more efficient distribution transformers ¶
- voluntary commitments to install more efficient new transmission lines ¶

Information, education and training

- providing information on district heating opportunities ¶

Research, development and demonstration

- district heating and cooling research ¶
- reducing fugitive natural gas emissions from pipelines ¶
- research to improve electricity distribution ¶

II. INDUSTRY

Regulations and guidelines

- regulated minimum energy efficiency standards for industrial equipment ¶¶¶
- regulated emission standards for equipment (for example, boilers), products (for example, storage of petroleum products) and processes (cleaning with solvents, waste incineration) ¶¶¶
- regulated standards for energy management firms ¶

- requirements to monitor and report on energy use by industry ¶
- regulated standards for energy management firms ¶
- regulated emission standards for waste incineration plants ¶

Economic instruments and incentives

- financial incentives (subsidies, tax relief, low interest loans) for investments in energy-efficient or renewable energy technologies ¶¶¶¶
- financial assistance for industrial energy audits ¶¶
- taxes targeted specifically at industrial energy use or emissions ¶
- economic incentives (for example, "golden carrot" or subsidy programmes) for the development and commercialization of energy-efficient technologies ¶
- electricity pricing reform (for example, prices increase with the quantity used or the time of use) to promote energy efficiency ¶
- financial support for the purchase of emission control technologies ¶
- financial incentives (for example, subsidies, tax relief) to encourage fuel switching from coal, electricity or oil to natural gas ¶

Voluntary agreements and actions

- voluntary commitments by industry or voluntary agreements with industry to report on energy use and improve energy efficiency (for example, industry simply agrees to take action, industry agrees to meet a specific energy efficiency or emission reduction target, or industry agrees to implement all energy efficiency actions that have a specific payback period) ¶¶¶
- voluntary commitments by industry to improve the energy efficiency of their motors, lighting or other specific energy using equipment ¶
- voluntary commitments to switch from existing equipment to more energy-efficient natural gas equipment ¶

Information, education and training

- providing information on energy efficiency opportunities in industry ¶¶¶
- provision of audits of industrial management energy use and the training of industrial energy managers ¶¶
- industrial equipment energy efficiency labelling ¶
- promoting a switch to more energy-efficient natural gas equipment ¶
- promoting renewable energy technologies ¶
- promoting emission control technologies ¶
- promoting electric heating ¶

Research, development and demonstration

- research and demonstration projects on energy management, energy efficiency improvements and renewable energy technologies in the industrial sector ¶¶¶

III. RESIDENTIAL, COMMERCIAL AND INSTITUTIONAL

A. Improving the energy efficiency of new buildings

Regulations and guidelines

- strengthening the energy efficiency and renewable energy content provisions of building codes for the construction of new buildings ¶¶¶¶
- requiring metering of water and space heating on an individual unit basis ¶¶
- obligations to plant trees around new buildings ¶

Economic instruments and incentives

- financial incentives to design and construct more energy-efficient buildings ¶¶
- financial incentives to purchase more energy-efficient buildings through the provision of "energy-efficient" mortgages and loans ¶

Information, education and training

- energy efficiency rating systems for new buildings or methodologies to make the calculation ¶
- education and training to increase the incorporation of energy efficiency considerations and renewable energy sources in building design ¶

Research, development and demonstration

- research into technologies that will improve the energy efficiency of buildings ¶¶
- demonstration projects for energy-efficient buildings and buildings that use renewable energy technologies ¶¶¶

B. Improving the energy efficiency of existing buildings

Regulations and guidelines

- commitments by Governments to undertake energy efficiency retrofits of government buildings ¶¶
- requiring metering of water and space heating on an individual unit basis ¶¶
- regulated energy efficiency standards for building retrofits ¶
- changing to daylight saving time to minimize heating and cooling needs ¶
- ban on conversion to electric heating when alternatives are available ¶
- requirement to monitor and report on energy use in large buildings ¶
- requirement to produce energy efficiency plans in order to receive a permit for a building retrofit ¶

Economic instruments and incentives

- financial incentives (for example, subsidies/loans/tax relief) for energy efficiency retrofits in existing buildings ¶¶¶
- tax increases specifically targeted at energy use by households ¶
- financial incentives for fuel switching from coal to gas, oil or district heating ¶
- financial support for home energy audits ¶
- financial support for energy efficiency improvements in social housing ¶

Voluntary agreements and actions

- voluntary agreements to seek out energy efficiency opportunities and implement energy efficiency retrofits in existing buildings ¶¶
- voluntary planting of trees around existing buildings ¶

Information, education and training

- public education on energy efficiency opportunities in existing buildings ¶¶¶
- networks of energy efficiency consulting and information centres ¶¶
- provision of energy audits for existing buildings ¶¶
- promotion of electric heating ¶

C. Improving the energy efficiency of appliances and equipment

Regulations and guidelines

- minimum energy efficiency standards for appliances and equipment ¶¶¶¶

Economic instruments and incentives

- subsidies and other financial incentives (lowering the tax rate) for the purchase and installation of energy-efficient and/or renewable energy equipment and appliances (in some cases, subsidies for the removal of inefficient appliances and equipment are also provided) ¶¶¶¶
- financial incentives to develop more energy-efficient equipment and appliances (for example, "golden carrot" programmes) or financial support for the commercialization of energy saving technologies ¶
- tax increases specifically targeted at energy use by households ¶
- financial incentives (for example, subsidies, tax relief) to encourage the replacement of existing equipment and appliances with natural gas products ¶
- electricity pricing reform (for example, price variability depending on the quantity used and the time of use) to promote energy efficiency ¶

Voluntary agreements and actions

- procurement policies that focus on energy-efficient equipment and appliances and voluntary agreements that create a market for these technologies ¶
- voluntary commitments to replace existing equipment and appliances with natural gas products ¶

Information, education and training

- energy efficiency labelling for appliances and equipment ¶¶¶
- promoting the replacement of existing equipment and appliances with natural gas products ¶
- promoting renewable energy technologies ¶
- promoting electrical heating ¶

IV. TRANSPORTATION

A. Improving automobile fuel efficiency

Regulations and guidelines

- reducing speed limits or strengthening their enforcement ¶¶
- regulated fuel efficiency standards for new automobiles ¶
- compulsory fuel efficiency standards for corporate and institutiona! automobile fleets ¶
- compulsory installation of speed limitation devices for trucks and buses ¶

Economic instruments and incentives

- increased taxation of gasoline and/or diesel fuels ¶¶¶
- financial incentives to purchase less powerful, fuel-efficient vehicles that are applied at registration, purchase or when obtaining insurance for an automobile ¶¶
- financial incentives to help commercialize technologies that will reduce fuel consumption in automobiles ¶

Voluntary agreements and actions

- voluntary agreements on fuel efficiency standards for new automobiles ¶
- voluntary agreements to use fuel-efficient vehicles in corporate automobile fleets ¶

Information, education and training

- providing information to consumers on fuel-efficient automobiles and fuel-efficient driving practices ¶¶¶
- vehicle fuel efficiency labelling programmes ¶
- tyre fuel efficiency labelling programme ¶
- fuel efficiency indicators in automobiles ¶

Research, development and demonstration

- research to improve automobile fuel efficiency ¶

B. Increasing the use of alternative transportation fuels

Regulations and guidelines

- regulations requiring the use of alternative fuels in specific applications/geographic areas ¶

Economic instruments and incentives

- increased taxation of gasoline and/or diesel fuels ¶¶¶
- financial incentives to purchase alterative fuels (for example, lower taxation than on conventional fuels) ¶¶
- financial support for the purchase of alternative fuel vehicles (for example, electric, natural gas) ¶
- financial support to produce alternative fuels ¶
- financial support to develop an infrastructure for alternative fuel vehicles ¶

Voluntary agreements and actions

- voluntary agreements with companies to use alternative fuel vehicles in automobile fleets ¶

Information, education and training

- providing information on alternative transportation fuels ¶

Research, development and demonstration

- research into alternative transportation fuels ¶¶

C. Strengthening vehicle emission controls

Regulations and guidelines

- regulated vehicle emission standards and requirements for the use of catalytic converters ¶¶¶
- compulsory vehicle inspection and maintenance programmes for some categories of vehicle or for all vehicles ¶¶

Economic instruments and incentives

- subsidies to scrap old vehicles ¶
- financial incentives (for example, subsidies, tax relief) to purchase less polluting vehicles ¶
- financial incentives (for example, subsidies, tax relief) to purchase pollution control equipment ¶
- financial support for the electrification of rail traffic ¶

Voluntary agreements and actions

- voluntary agreements to use low emission vehicles in corporate automobile fleets ¶

Research, development and demonstration

- research to improve emission control technologies ¶
- research to reduce pollution from air transport ¶

D. Increasing the use of alternative modes of transportation

Regulations and guidelines

- privatization of the railway network ¶

Economic instruments and incentives

- increased taxation of gasoline and/or diesel fuels ¶¶¶
- financial support for upgrading/expanding public transport both within and between cities (particularly rail networks) ¶¶¶
- financial incentives to use public transport or the removal of financial incentives promoting the use of the automobile (for example, ensuring tax policy favours public transport over private automobiles) ¶¶
- financial support (for example, subsidies, removal of taxes on fuels) for demonstration projects in public transport ¶
- financial incentives (for example, tax treatment) to invest in public transportation ¶
- financial support for pedestrian and cycle paths ¶

Voluntary agreements and actions

- voluntary agreements by institutions to implement telecommuting ¶

Information, education and training

- public education on the environmental impacts of the car and the promotion of alternative modes of transportation ¶

Research, development and demonstration

- research into alternative transportation technologies ¶

E. Increasing the efficiency of freight transportation

Regulations and guidelines

- restrictions on road freight transportation or regulations that increase access to or require the use of other modes of freight transportation (intermodal transport) ¶¶
- regulated fuel efficiency standards for ships ¶

Economic instruments and incentives

- increased taxation of gasoline and/or diesel fuels ¶¶¶
- financial incentives to improve freight transport efficiency by encouraging a move from road to rail transport or the use of intermodal transport (for example, changing the relative taxation of road and rail transport, financial support for the purchase of intermodal equipment) ¶¶
- financial support for the construction of intermodal freight transportation hubs and/or distribution centres ¶
- increased taxation of aviation fuels ¶

Voluntary agreements and actions

- voluntary agreements by companies to improve freight transportation efficiency ¶

Information, education and training

- promotion of alternatives to freight transport by road ¶
- training on fuel-efficient driving practices for truckers ¶

Research, development and demonstration

- research on energy efficiency improvements in freight transportation and intermodal transport ¶

F. Improving transportation and urban land use planning

Regulations and guidelines

- regulations to improve transportation efficiency and traffic flow at the local level (for example, implementing bus only lanes, more efficient traffic signals, requirements to design more compact urban communities) ¶¶¶
- regulations restricting automobile use (for example, car-free zones, limiting parking spaces and stricter enforcement of measures to control illegal parking) ¶

Economic instruments and incentives

- financial support to improve road infrastructure ¶¶
- road pricing ¶

Voluntary agreements and actions

- voluntary agreements to control international road traffic ¶

Information, education and training

- providing information to local authorities on transportation planning ¶
- providing drivers with information on traffic congestion ¶

Research, development and demonstration

- traffic management technologies and practices ¶

V. INDUSTRIAL PROCESSES

Regulations and guidelines

- regulations to reduce emissions from HCFC manufacture ¶
- regulations restricting the production of high GWP HFCs ¶
- regulations restricting N_2O emissions from adipic acid and nitric acid production ¶

Voluntary agreements and actions

- voluntary agreements to control HFC emissions in HCFC production ¶
- voluntary agreements to control PFC emissions from aluminium smelters ¶
- voluntary agreements to reduce CO_2 emissions from cement manufacturing processes ¶
- voluntary agreement to reduce N_2O emissions from adipic acid production ¶

Research, development and demonstration

- research on the reduction of PFC emissions from aluminium production practices ¶
- research on methods to reduce N_2O emissions from industrial processes ¶
- research on methods to recycle CO emissions within the production process ¶

VI. AGRICULTURE

A. Reducing emissions from enteric fermentation in animals

Regulations and guidelines

- regulations to reduce and/or limit livestock numbers ¶

Economic instruments and incentives

- financial incentives (for example, subsidies or subsidy removal) to reduce and/or limit livestock numbers ¶

Information, education and training

- education to improve the efficiency of animal product production ¶
- education on improved animal feeding practices ¶

Research, development and demonstration

- research into animal digestive processes and improved animal feeding practices ¶

B. Reducing emissions from animal wastes in agriculture

Regulations and guidelines

- regulations to reduce and/or limit livestock numbers ¶
- regulations requiring the use of animal waste as a fuel ¶
- regulations on the management of animal wastes that minimize methane emissions ¶

Economic instruments and incentives

- financial incentives to reduce and/or limit animal production or livestock numbers (for example, subsidies or subsidy removal) ¶
- financial incentives to reduce emissions from animal manure ¶
- financial incentives to use animal waste as a fuel ¶

Voluntary agreements and actions

- voluntary agreements to improve animal waste management practices ¶

Information, education and training

- education to improve the efficiency of animal product production ¶
- education on alternative and/or improved animal waste processing systems ¶
- education on the use of animal waste as a fuel ¶

Research, development and demonstration

- research into improved animal waste management processes ¶¶

C. Reducing emissions from the use of nitrogen fertilizers

Regulations and guidelines

- regulations that restrict fertilizer use by setting limits on the nitrate levels in water or the amount of fertilizer that can be used per hectare ¶¶
- regulations requiring the setting aside of agricultural land ¶

Economic instruments and incentives

- financial incentives (for example, subsidies and subsidy removal) to set aside agricultural land or to practice less intensive agriculture ¶¶
- financial incentives to use organic farming practices ¶
- removal of subsidies for fertilizer use ¶

Voluntary agreements and actions

- voluntary agreements to improve the efficiency of fertilizer use ¶

Information, education and training

- education on efficient management of fertilizer use ¶

Research, development and demonstration

- research on how to use fertilizers more efficiently ¶
- research on how to enhance nitrogen uptake by plants ¶
- research on alternatives to nitrogen-based fertilizers ¶

D. Enhancing carbon dioxide sequestration and retention in agricultural soils

Regulations and guidelines

- regulations that require improved tillage practices and soil management ¶
- regulations requiring reduced fallow frequency ¶

Economic instruments and incentives

- financial incentives (for example, subsidies and subsidy removal) to practice less intensive agriculture ¶¶
- financial support for soil management initiatives ¶
- financial incentives to reduce fallow frequency ¶¶

Voluntary agreements and actions

- voluntary agreements to improve soil management ¶

Information, education and training

- education on improved soil management practices ¶¶

Research, development and demonstration

- research on improved soil management practices and the link between soils and greenhouse gas emissions ¶¶

E. Reducing methane emissions from rice production

Research and development

- research into farming practices that would reduce methane emissions ¶

VII. LAND USE CHANGE AND FORESTRY

A. Preserving biomass

Regulations and guidelines

- regulations on proper forest management practices or regulations that require the approval of forest management plans ¶
- regulations establishing protected areas ¶
- regulations that limit the clearing of forested land ¶
- regulations that require the restoration of wetlands ¶

Economic instruments and incentives

- financial support to develop forest management plans and financial incentives for improved forest management ¶¶
- financial incentives (for example, fees for the removal of trees) to preserve forests on private land ¶
- financial support for fighting forest fires ¶

Voluntary agreements and actions

- voluntary agreements to improve forest management practices ¶

Information, education and training

- education and/or training on improved forest management ¶
- promoting carbon sequestration through a greater use of wood products ¶

Research, development and demonstration

- research on improving forest management practices ¶
- research on studying the effect of pollution on forests ¶
- research on carbon storage in wood products ¶

B. Afforestation and reforestation

Regulations and guidelines

- regulations that require afforestation of unused or abandoned agricultural land ¶
- regulations that require reforestation ¶

Economic instruments and incentives

- financial incentives (subsidies, tax incentives) for afforestation on agricultural lands, waste lands or abandoned lands and tree planting in urban areas ¶¶¶¶
- financial incentives for reforestation ¶

Voluntary agreements and actions

- voluntary agreements to rehabilitate native vegetation ¶
- voluntary tree planting partnerships and programmes ¶

Information, education and training

- education to promote afforestation ¶

Research, development and demonstration

- research on methods to maximize carbon sequestration through afforestation ¶

VIII. WASTE MANAGEMENT AND SEWAGE TREATMENT

A. Promoting recycling and minimizing waste

Regulations and guidelines

- regulations requiring waste minimization in the commercial and industrial sectors ¶¶
- regulations requiring recycling of waste in the commercial and industrial sectors ¶¶

Economic instruments and incentives

- financial incentives to reduce waste (fees on waste disposal, deposit schemes) ¶
- financial support for recycling programmes ¶

Voluntary agreements and actions

- voluntary agreements with industry to collect and recycle their products and/or packaging (for example, automobiles) ¶
- voluntary household and/or business recycling programmes ¶

Information, education and training

- education on waste reduction opportunities in residential, commercial and industrial facilities ¶
- promotion of recycling ¶
- information on wastes that can be recycled and used for energy production in industry ¶

Research, development and demonstration

- research into public attitudes towards recycling ¶
- research on improved waste management methods ¶

B. Reducing emissions from sewage treatment

Regulations and guidelines

- regulations on the production of energy from sewage wastes ¶
- regulations on treatment of sewage waste that will help minimize methane emissions ¶

Economic instruments and incentives

- financial support for the construction of more efficient sewage treatment facilities ¶

Research, development and demonstration

- research and demonstration projects on the production of energy from sewage wastes ¶

C. Reducing methane emissions from landfills

Regulations and guidelines

- regulations and guidelines that require the capture of methane from landfills for incineration or energy production ¶¶
- technical standards on the design and operation of landfills that will help reduce methane emissions ¶¶
- regulations and guidelines limiting the use of landfills as a waste disposal option ¶

Economic instruments and incentives

- financial incentives (for example, subsidies) to capture methane in landfills and produce energy ¶
- landfill waste disposal fees ¶
- financial support for composting projects ¶

Voluntary agreements and actions

- voluntary agreements to produce energy from methane in landfills ¶

Information, education and training

- promotion of composting ¶
- providing information on energy production from landfills ¶

Research, development and demonstration

- research to improve the efficiency of obtaining energy from methane in landfills ¶¶
- pilot projects to produce energy from methane in landfills or compost ¶

IX. CROSS-SECTORAL ECONOMIC INSTRUMENTS

Economic instruments and incentives

- broad-based taxes (carbon taxes, energy/CO_2 taxes, energy taxes, sales taxes with special rates for energy) to reduce greenhouse gas emissions ¶¶
- removal of subsidies for consumers and producers of fossil fuels and subsidies for producers (allowing prices to be determined by the market) ¶¶

Research, development and demonstration

- research on carbon taxes ¶

Appendix

LIST OF ANNEX I PARTIES WHOSE NATIONAL COMMUNICATIONS WERE EXAMINED FOR THIS DOCUMENT

Australia
Austria
Belgium
Canada
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Japan
Monaco
Netherlands
New Zealand
Norway
Poland
Portugal
Romania
Spain
Sweden
Switzerland
United Kingdom
United States